Gleanings in Bee Culture

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From the Apiary Notebook

By Clarence Tontz

Aside from fire hazard, a grassy bee yard is bad business. This spring after the green grass had turned brown I failed to notice a 6-button rattle snake coiled in front of one of my colonies until I had almost stepped on him. I jumped back and waited for him to crawl away so that I could proceed with my work. He didn't move. With my smoker I blew some smoke in his face (I'll never do that again) and he slowly started for me. The tallest near-by colony was only 3 stories high and that's the one I crawled up on. That rattler then decided to crawl under the hive that he had been coiled in front of. I had taken the cover off this hive and my next problem was how to get it back on—safely. I wasn't too sure just where that snake's head was. Finally from a distance of six feet I tossed on the cover. It didn't fit down snug but that was only a minor matter.

Out here where poisonous snakes are fairly common it is a good bet to take along a gun and first aid for snake bites. High top boots, of course, are the thing to wear since around 70 percent of all snake bites occur from the knees down.

Backlot vs. Commercial Beekeepers

C. H. Pease's interesting article (Gleanings, April '47) regarding backlotters vs. big beekeepers served to remind me that I have known big beekeepers who were also, in a sense, backlotters. For years I have read that the big boys were in the game only for the money. I don't

It is "bad business" to have and work bees in a grassy out-yard such as this. Fire and snakes go hand in hand with dry, grassy bee yards.

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agree. If this were so they wouldn't be in the game for long. I can't help wondering why, if the backlotters are so much more interested in bees, they don't throw in their lot with the bees and make it a full-time job. It is true, of course, that many backlotters aren't backlotters by choice.

Being put in the category of backlotters are those commercial beekeepers who have a small apiary near their home with perhaps one colony on scales. They relax with these bees; putter around them in their off-moments; experiment with them. In my own case, although I am a commercial beekeeper, I have a small apiary of around 20 colonies at home that I "play" with. They are kept in good condition but I spend more time per unit with them than with any out-yard colony. The results are about the same. Abraham Lincoln once said that God surely must have loved the common people because he made so many of them. This adage seems to apply to the commercial beekeeper. He really must love bees because he keeps so many of them.

A Strong Colony is Hard to Kill

A beekeeper once remarked that a strong colony with a good queen is hard to kill. Yes, that is true but last year in early summer I had several strong colonies completely annihilated by small red ants. The ants invaded the hives and carried away the honey. What was left of the colony clustered on the front of the hive, then finally absconded. This out-yard, where around a dozen colonies perished before I was aware of the ant attack, was located near a huge pile of rotting oranges. This undoubtedly contributed to the immense ant population which, when the bees were moved to alfalfa, were attacking every hive.

On the day the bees were moved I noticed a swarm circling about near the yard. I soon found out that it was not a regular swarm, but an absconding colony of bees. This particular colony had been a strong swarm hived four weeks earlier. I examined the hive. The ants were carrying away the remains of what was once 40 pounds of honey.

In another case a 4-story colony with around 100 pounds of surplus was stripped clean. The bees were

Not a crowded colony but the remnants of one. The bees were driven out by small red ants such as plague householders. The inside of the hive was stripped clean of honey. Brood was neglected and dying.

Snow-covered mountains in southern California. This picture was taken during mid-winter and shows the San Bernardino Mountains with heavy drifts. Because of the added moisture from the snow a fair yield was secured from wild buckwheat last year by beekeepers who trucked their bees to a high elevation.

Each winter out here we usually have two or three mean winds. Nothing dangerous, as a rule, but quite a nuisance. These supers were stacked close together and had stones on top for weights. I have learned that the best way to prevent stacks of supers from being blown over is to bind them together with laths.

gone. There are means of combatting these ants, of course, but in some locations they become well entrenched if an out-yard is not visited often enough. Some beekeepers favor crank case oil which can be had for the taking and with the service station operator's blessings. Poured on the ground around the hives it is a fair repellent. Carbon bisulphide and Cyanogas, a commercial product, are also bad medicine for ants.

Backlotter beekeepers sometimes place their colonies on specially built platforms which have legs standing in cans of oil or grease. One drawback to this is the fact that the grease or oil usually becomes coated with dust after a time forming a "bridge" for the ants to pass over. Western migratory beekeepers, as a rule, cannot be bothered with stands of any kind for their bees. The many disadvantages would far outweigh the advantages.

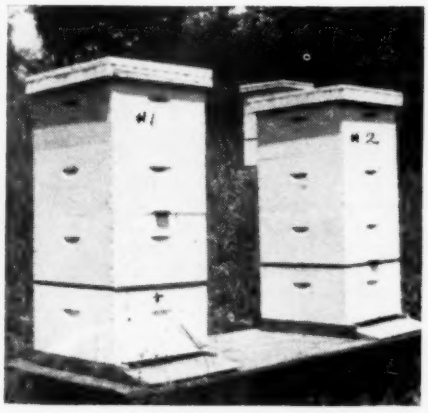
Queen Commits Suicide

I wonder if it is common for a queen bee to commit suicide. Recently I picked up a rather nervous queen by the wings to transfer her to another comb. She curled up her abdomen and for a second I thought she was going to sting my finger. But she pierced herself near the lower part of her thorax. In a few seconds she was dead.

Elsinore, Calif.

Experimental Colonies

By Geo. Arnold



These two colonies suffer all the agonies of the damned. Many times each week during the summer they are opened and torn apart for the benefit of spectators. They are as calm as kittens, even under adverse conditions. Frames of these bees are carried into the house and poked into windows of cars and carried back again.. The Demaree system is demonstrated a dozen times each season with these colonies and in spite of this they are large producers and during the past four years I've never had a swarm. When fall comes I crowd them down to one story jammed with honey and bees. (I use a top and bottom entrance.) I add drawn combs in late April by adding another hive body and by late May both bodies are jammed with bees and brood, then I Demaree as you see in this photo taken last early June.

Minerva, Ohio.

B & Z Library

More About Rosemary

By Henry Freud

The short article which I contributed to the April number has aroused such an interest among beekeepers all over the world that I feel I must give some further details about this plant and the possibility of introducing it on a large scale in the U. S. A. or other Continents with a suitable soil and climate for its cultivation.

More so, as I must answer all the letters which literally flooded me and came from all parts of the States, from England, Ireland, Africa, Australia, and New Zealand. Some of the letters are touching lines of friendship, another proof of the wonderful brotherhood of our craft knowing no frontiers and no differences of opinion.

All these enquiries prove two outstanding facts:

1. A real desire, nay, thirst of beekeepers all over the Earth to ameliorate the existing bee pasture with a view to producing honey of the highest quality.

2. How widely Gleanings is distributed and how carefully it is "gleaned" by its readers.

To comply with the desire of so many beekeepers, the introduction of the rosemary plant should be tackled on a large scale.

Possibly—for I do not know conditions in the U. S. in this respect—the National Honey and Pollen Plants Committee could take up the matter in a methodic and scientific way. They would certainly render the industry an immense service.

And now let me answer **en bloc** to the letters and enquiries.

The would-be planter of rosemary must first carefully examine his soil and the climatic conditions of his location.

Rosemary grows best in a clay or loam soil, even in loamy soft rocky soil.

(I would gladly submit one or two samples of the soil where we found it most suitable for rosemary and where—providing climatic conditions prevail as I shall indicate further — the honey crop is outstanding.)

Should the soil be other than loam, rosemary will thrive very well, but I insist that from the beekeeper's point of view—as far as my experience goes—the best location will be a district where the winter is more or less severe and the spring comes early.

Our best location was the Narbonne district where we had frost in December and January as low as 4 to 6 Centigrade (6 to 9 degrees F. BELOW freezing point) and where, because of this fact and cold weather in February, the blooming of the rosemary was **kept back** until the first week in March only to burst into a mass of flowers, secreting nectar up to the 15th and 20th of May with a scale hive tipping up often 10 to 15 pounds a day.

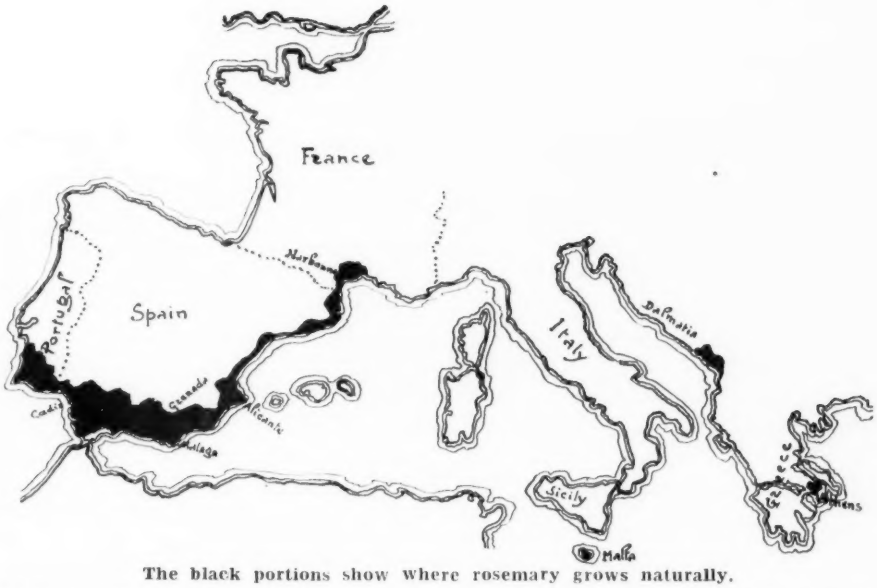
The annual rainfall in the Narbonne district is very moderate, the plant withstanding the most intensive heat and drouth. This latter fact is very important because it means that by planting rosemary on a large commercial scale, it will have to be taken care of only the first couple of years by keeping out the weeds, but afterwards will take care of itself as it certainly will not tolerate any other plant near it.

The plantation will have to be started by rooted cuttings. These cuttings are two years old and once planted will grow into sizable bushes in two years, afterwards starting to bloom and yielding honey the fourth year with a proper secretion of nectar in the fifth year. The bushes grow up to 4 to 5 feet. The secretion of nectar is most intense with cool or cold nights and warm and hot days.

The plants should be planted 30 inches apart both ways.

The best season or time to plant is October and November up to the 15th or 20th of December. I would recommend a light 10 to 15 inch ploughing under before putting in the plants and a little water until the plants have taken root.

The cuttings must not be out of the soil for more than 12 to 15 days, which unfortunately means the only way of transport, namely airspeeded transportation. This latter —of course—means that the cuttings will cost the planter a little bit more but the expense is well worth it, as the plants reach a very



The black portions show where rosemary grows naturally.

high age (30 to 40 years.)

Naturally many beekeepers asked me if the plantation could not be started by seeds. They can, but we found that only 5 percent results were reached. We tried it all ways. Not only did we find that only 5 percent of the seeds have come up, but the seedlings were not vigorous. The result was an awful lot of waste and loss of labor and time. With cuttings one gains two years (the age of the rooted cuttings) and practically no loss of plants if the instructions above are observed.

For some reason or other, probably because of soil and climatic conditions, I do not know of other places where rosemary thrives in a natural way. But I am perfectly certain that just as Hubam clover has been introduced on a large scale in the States, rosemary will one day become **the** source of the highest grade honey in the U. S. A.

To sum up: Should the **National Honey and Pollen Plants Committee** establish in various places a few experimental plantations and watch results and subsequently distribute cuttings, they would certainly help the industry immensely.

Taradeau, France

HONEY ATTRACTS HUMMINGBIRDS

By Jeanette Tontz

Some men are horse fanciers or dog breeders, but in Orange County, California, Mr. Benjamin Tucker is a godfather to hummingbirds.

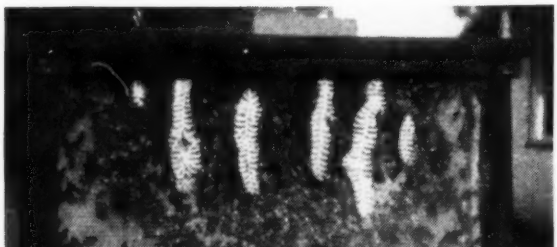
Mr. Tucker got his start in this interesting hobby 20 years ago when one lone hummingbird flew into his yard and lit on a cactus bush. Since hummingbirds were rare in the Santiago Canyon because of the absence of nectar filled flowers, this one attracted Mr. Tucker's attention and he decided to give her a drink of honey, which he placed in a glass test tube with a bright red ribbon tied around it to give the appearance of a flower.

Mr. Tucker's "friend" was pleased with her drink of honey and she returned the next day with her two babies. Other hummingbirds followed suit and today the hospitable Mr. Tucker has thousands of winged guests. He keeps busy not only feeding his birds but answering questions from all over the world as to how to attract hummingbirds.

Elsinore, California.

Bees Do Build Burr Comb

By G. M. Ranum



No. 1 — These burr combs were built almost identically with previous ones that had been sliced off.

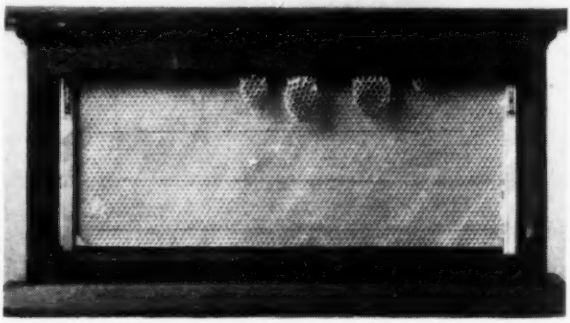
Last spring, on request of the teachers, an observation hive was set up by me in a local school building. The installing of the hive had been postponed awaiting favorable weather conditions, so it was not possible to show a full cycle of brood rearing as had been intended. As there was no honey flow and but little pollen coming in, feeding had to be resorted to. When school closed for the season the bees had a good start of brood in all stages but no emerging brood.

The comb had been well drawn out and besides, several burr combs attached to the glass in a way added to the exhibit. Both pupils and teachers found it very interesting to see the bees constructing these split cells and depositing syrup in them. The egg laying and brood rearing in the regular comb, too, had been closely observed by the school.

After the closing of school the latter part of May, about a week elapsed before the observation hive was brought home. In the meantime there had been no heat in the building and low temperatures prevailed outdoors. Owing to close clustering, brood at the edges had become chilled. Besides, the bees were near starvation, the feeder being empty. Given a feed of warm syrup in a warm room the almost lifeless forms began to revive, the fluttering wings became more active, and ere long a lively "joy dance" was going on.

Examination of the comb revealed that the queen had stopped laying. After a few days some scattering eggs were seen. In less than a week cells were started and in due time a new queen was reared, which, successfully mated, is now heading the colony that was built up from the observation nucleus.

Picture No. 1 was taken a couple of days after the hive was brought home. At that time the burr combs



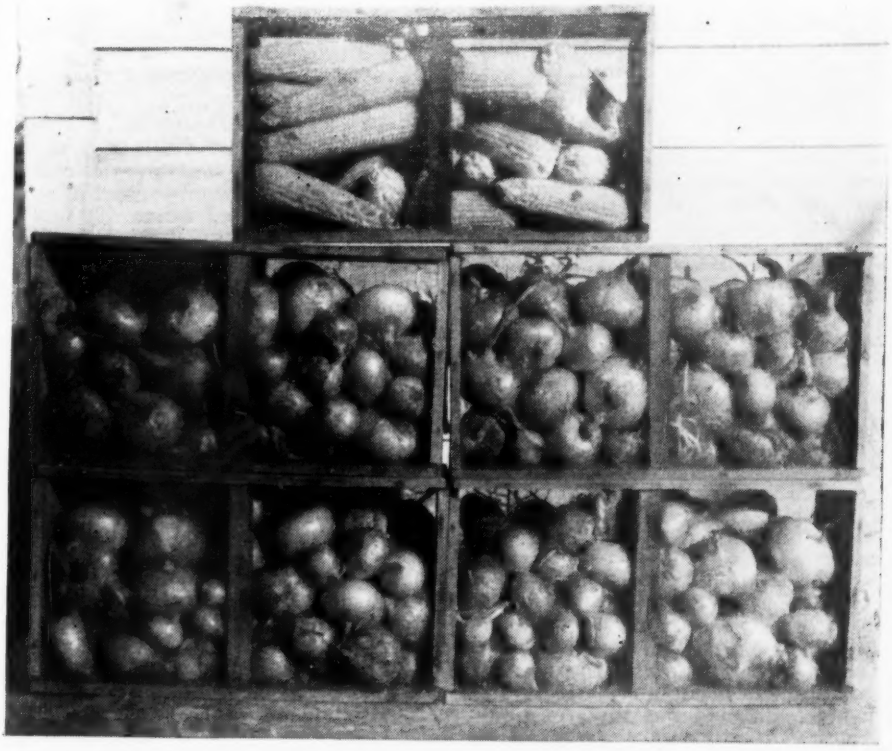
No. 2 — Burr combs were built when the hive was covered with a piece of cloth, and attached to the hive casing, since the glass had been removed.

were sliced off from the glass rather carelessly. Within two or three days another set of burr combs were built on the glass in the same position as the original ones and almost identical in appearance. On opening the hive it was noticed that the frame of brood was not properly hung in the hive, being a trifle off center so there was more space on the side where the burr combs were than on the other side of the comb. This was apparently caused by faulty construction of the frame rests. The defect was corrected and the comb put in proper position. At this time the pane of glass was left out with the intention of giving it a thorough cleaning when time was available. In the meantime the opening was kept covered with a piece of cloth thrown over the hive and held in place with thumb tacks. When the covering was taken off the following day, new burr combs were found attached to the hive casing as shown in **Picture No. 2.** How can this seemingly freakish behavior be explained? Looks like force of habit on the part of the bees rather than organized procedure.

Mount Horeb, Wisconsin.

[It seems that bees will build comb in a space large enough for comb construction. If sufficient space is left at the side of a hive, or between combs of brood or honey, the bees will build a comb in this space. The maximum bee space permitted to prevent the building of burr comb is about 7/16 inch.—Ed.]

A New Use for Old Bee Shipping Cages



Old bee shipping cages can be stacked and used for drying onions or popcorn.. Mice can't get to the corn when cages are stacked.—Photo by C. G. Langley, Red Wing, Minn.

On Using Sulfa

By L. F. Childers

[Mr. Childers is a retired professor who has worked with Dr. Leonard Haseman on the sulfathiazole project. He is now operating around 160 colonies of his own and making a success of honey production. Ed.]

A new line of thought and action is coming out of this sulfa treatment for foulbrood. The general teaching of the past has been that this was strictly a brood disease and that the adult bees were unaffected. That idea may be due for the scrap heap. Practical evidence as it begins to unfold with this new treatment plainly shows that the adult bees themselves are the infection carriers. We fiddled around with the formalin-alcohol treatment and said it failed because "maybe" a cell or two got by without being noticed. Then we monkeyed with the shaking method—shook the bees onto empty frames for a period of four days to starve the honey out of them, then followed by shaking onto foundation only to have a high percentage of reinfection. The real culprits got away both times. There is no doubt that sulfa cleans the infection out of adults and there is real doubt that the infection ever gets to the developing brood. Why don't we ever think to link up with practice some of the things that have already been discovered?

About a year ago someone quoted an experiment that had been done before the war, showing that should a newly hatched larva escape infection the first three days of its life it would come on to healthful maturity. Look at the mechanics of this and see where it leads to. This larva is fed royal jelly the first three days of its life and royal jelly is manufactured by the nurse bee through the salivary glands located in her head. The materials for this product are supplied by the circulatory system—in short, the blood stream. How the germ (spore) or its product gets into the blood stream is immaterial at this point. The fact that it gets in there and is capable of producing infection is prima facia evidence that the adults are the infection carriers for if the nurse bee has it in her blood stream then why does not every bee in the hive that eats infected honey have it in its blood stream? Well, they most certainly do and that should make it plain why alcohol-formalin and the shaking method failed. Now the sulfa method works the other way around and some of us insist on putting clean bees on old infected combs and honey. If we don't wake up and use our heads we will be right back again where we started. Sulfa is a powerful drug and it is going to take time and patience to learn how, when, and where to use it.

Mr. Childers demonstrating the use of sulfa at the Missouri State Meeting, held at Columbia, April 23, 1947.

Two articles appeared in the June issue of Gleanings that can not be improved on in telling how and when to use it. Mr. Baxter fed his bees in the early spring before the flow started and during the build-up period, while Professor Anderson fed his after the flow was well in progress or at the finish. Out of 700 colonies Mr. Baxter had only four reactors in two years—almost 100% clean-up. Professor Anderson first fed 16 colonies beginning in August and September and lost 14 —close to 100%, then on 12 packages installed—some in March and

some in June—he lost 5 colonies. He did not state in which installation the five lost colonies were but I will venture it was that in June, for he stated that he put the packages on drawn brood and super combs made by diseased colonies.

Now one or both of two things has happened here. These old combs have contained more honey or pollen than the bees used in building up before the June flow started and after it started they stored new nectar on top of the old and used it in the period of dearth after the flow was over. The fact that he used combs from diseased bees does not excite me a bit PROVIDED they are devoid of both honey and pollen. I can show two or three dozen such combs in my apiary that are clean after four years.

The experience of Mr. Baxter is the one to receive special attention. At the time he stated to me in a letter that over 25% of his colonies were diseased, that he began feeding early using heavy syrup but found the bees loaded up so heavily they could not fly so he reduced the strength to 100 pounds of sugar to 50 gallons of water with 50 sulfa tablets. It was fed in tubs set about the yard. The weather remained cold and the build-up season was drawn out excessively long. In fact, his bees used up their winter stores and were right down on the verge of starvation. In fact, he did not have to unite the weak ones.

Two things stand out in preeminence here. He fed a light sprup, and the bees were on the verge of starvation. What do they mean? (1) To get the infection out of the bees' system we must get sulfa into the bees and a bee with a full stomach will not likely take enough syrup to do the job. (2) During that period of starvation his bees searched the bottom of every cell nook and corner for honey. They literally scraped the bottom of the barrel. Then when the flow opened Mr. Baxter had 700 colonies of clean bees on combs they had cleaned themselves of honey and pollen. If the experiments of these two men were repeated a thousand times the result would be the same.

Then what will a fellow do who finds disease after the flow has started? This is how I would manage it: Put the queen with all of the infected brood in the first chamber under an excluder and feed syrup to stop the spread of the infection. Then when the flow was over set a hive with empty frames alongside and begin lifting the supers of honey over on the empty hive finishing with the brood on top. Then put on the acid board and drive every bee into the empty chamber. The filled supers can then be taken away without great fear of robbers, and examined. Of the lot extract every comb fit to put into the extractor and bring these back for the bees to clean out. Don't neglect to feed a light syrup the entire time this is being done. After the combs are licked clean by the hungry bees they will be fit to use again. The brood combs and those heavy with pollen must be either burned or melted down. There will be problems like this arising from the time spring opens till the time to put the bees away for winter that will require intelligent handling, but what industry is there that does not require intelligent thought? I again emphasize that the adult bees are the infection carriers; they are the primordial sinners themselves. Clean them and clean the combs they live on and the battle is won.

New Franklin, Missouri.

Miss Emma Schmidt, Kellogg, Minn., Sec. Treas. of South East Minnesota Beekeepers' Association. Former president of the State Association, she operates 700 colonies and is a deputy bee inspector. We wonder if there is any other lady inspector in the U. S.—Photo sent by C. G. Langley, Red Wing, Minn.

Beekeeping in Norway

By Rolf Lunder

Norway is the most northern country in Europe. It is almost exactly situated in the same northern latitude as Alaska is on the American continent (58°-71° N.L.), and an American would probably ask if it is possible to make beekeeping pay with such conditions. Besides, Norway is a typical mountainous country, and by the coast there is a very great downpour, up to 3000 mm. a year in many places. But if you look at the temperature chart, the impression becomes far more favorable. The fjords along the shore are never frozen over in winter, and the average temperature in January at Hammerfest, in latitude 71, is higher than in Chicago in latitude 42.

These favorable conditions of temperature are due to the Gulf Stream. From the Mexican Gulf a broad stream of warm water goes across the Atlantic Ocean and to the north along the coast of Norway. It has a great influence upon the climate of our country. Beekeeping has been attempted in Finnmark, the most northern part of the country, and the bees may surely live there. But winter is very long and the summer temperature low, so there is only a question of beekeeping as a hobby. Farther to the south, however, the conditions are rather favorable, especially in the interior parts where summer is comparatively warm and dry. And the average crop of honey per colony is greater in Norway than in South and Central European countries.

On account of the German occupation we had little sugar for the bees during the war, and about one third of the population of bees starved to death during the winter of 1944 and '45. But later it has increased again, and counted per inhabitant we have today almost half as many colonies as in the U.S.A. Most of the apiaries are quite small, but in late years we have some greater bee farms.

The honey flow is not so rich as it is in America. At some places well managed apiaries may produce 100 pounds per colony in good years. The average is considerably lower, answering to two thirds of the average in the U.S.A. The price of honey being higher in this country, the production pays well.

Most Important Honey Plants are Clovers and Heather

These two give at least 60 percent of all honey produced in Norway. The rest is divided among raspberries, fruit blossoms, basswood, maple willow, dandelion, blueberries, fireweed, and some others. Honeydew may occur. The flow from willows sometimes will begin in the last fortnight of April, and that of maple a little later, but the flow is rarely of any importance before the blooming of the fruit blossoms, dandelion, and blueberries starts about May 20th. The orchard flow may be quite rich. The summer flow starts with raspberries and white clover about June 20th, and in the farming districts the main flow of alsike and red clover comes in the first fortnight of July.

The clover flow is comparatively short in duration because, as a rule, the farmers cut the grass early to get first class hay, and seed culture is of little importance. In addition, it is plain that the clovers must have a high temperature and a relatively dry climate to give honey, so in the coast districts we have no considerable clover flow. In the interior the clover flow may some years be very rich, and it is the alsike which gives the most honey.

Hive stand to be used where there is danger of ants.

But some years we may have almost pure red clover honey as well.

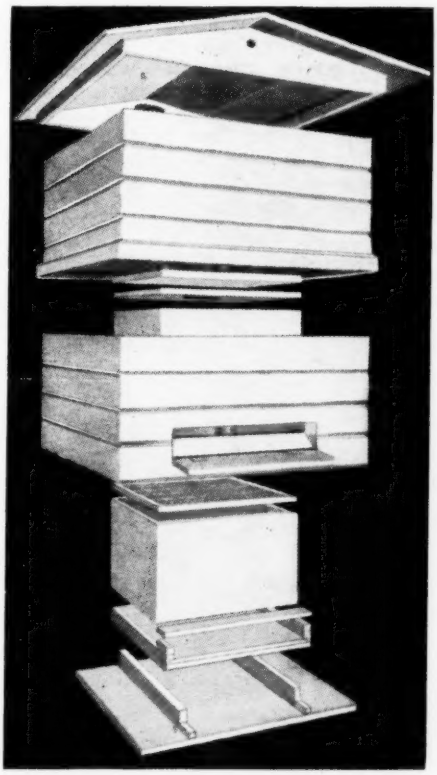
The ling or heather (Calluna vulgaris) is doubtless the best honey plant in Norway. The heather flow may be as rich as the clover flow, and with our climatic conditions it is most unfailing. The fact is that the heather craves a bountiful moisture, and it gives honey at a quite low temperature. Besides, it grows on the rocks and on sour and poor soils, and in Norway we have plenty of both. The heather is in flower for five weeks in the autumn, and, for some reason unknown, it blossoms earlier in Norway than in more southern countries, as England and Germany. The heather honey is quite a special type, of a reddish-brown color and with a very strong flavor. It is so tough and sticky that it cannot be extracted from the combs in the usual way, but with modern equipment it can be done to satisfaction.

Up here in the border districts of beekeeping we have ample opportunities of studying the influence of climate factors on the flow of honey. It appears that most years the yield of honey is greatest in the northern interior districts, and this is equally the case in Sweden, our neighboring country. So one has an impression that the plants produce more nectar in northern parts, and the clover flow is alleged to occur at a lower temperature up there than farther south. But the problem has not been the subject of scientific investigation, and it is evident that many factors must be considered. Thus it is of great importance that so far north the day is very long in summer, and is so light that **the bees may fly almost all night.** They have a long working day. Besides, colonies of bees are not plentiful, and the clover is not cut as early as farther south in the country. It is possible that the light conditions influence the nectar production of some plants, as clover, but so far we do not know it.

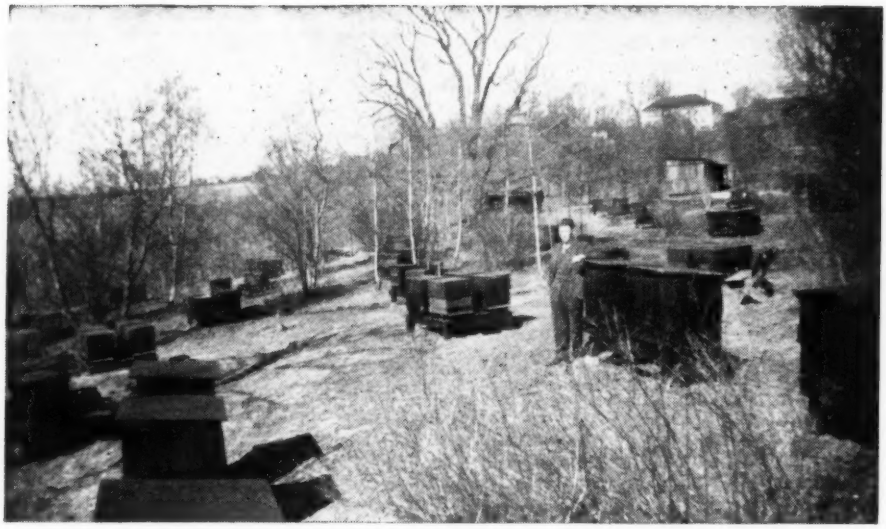
Influence of Altitude on Nectar Secretion

For some years, however, we have studied the heather flow in different altitudes by migrating in the mountains. It is alleged, thus in American literature, that the plants yield more nectar high in the moun-

Single-walled Norwegian Hive with permanent packing case.



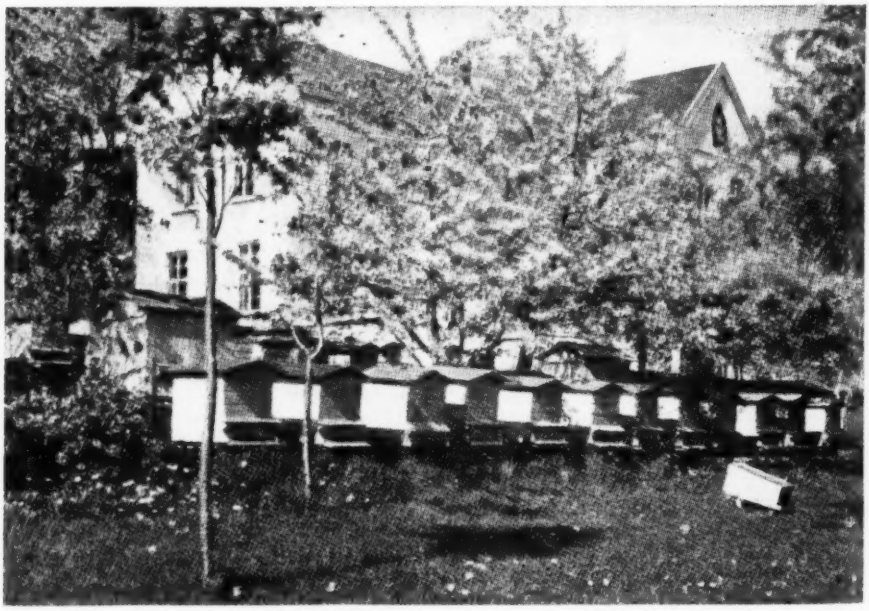
This view shows the component parts of the hive and packing case.



Getting a Norwegian apiary ready for the winter.

tains than in the lowlands. The heather occurs in the heights from 0 up to 3000 feet above the sea. But the heather is fond of light, and in the interior districts where the woods are very dense, there is only a little of heather. We find that the quantity of heather increases with the height up to 2500 feet (the limit of trees).

Accordingly, the best flow and the best yields of honey ought to be expected at a great height above the sea, but our investigations have clearly shown that the yield will be greater at 1000 feet than at 2000



In the spring the bees are ready for the fruit bloom.

The same apiary as on opposite page. It is well protected.

feet, and the ideal height for migrating with the bees in these tracts is about 1000 feet. The cause is that the day temperature becomes lower at greater heights, and there is a distinct correlation between the temperature and the heather flow, a high day temperature giving a good flow. But the heather produces plenty of nectar at a quite low temperature and we do not think that the influence of temperature on the production is the most important factor.

Of far greater importance is the influence of temperature on the

The apiary is well located—well protected in winter from prevailing winds and in summer has good shade.

working capacity of the bees. They are animals of a changing caloricity, and at a high temperature they will work more quickly, will carry a greater burden, and more bees will be out for honey.

Heather Yields Best When Nights and Days are Warm

Our investigations also have pointed out a certain accordance between the minimum temperature and the flow; as a rule the flow will be good the day after a cool night. But I don't think there is any real correlation. Usually the type of weather which gives warm days with a good flow is attended with cool nights, but for that reason the cool nights need not be the cause of the good flow. On the contrary, the heather flow will be best when both days and nights are warm, for then the bees will have the longest working day. But this combination rarely occurs. These results are not to be transferred right away to other honey plants and other conditions, but I believe that generally the influence of temperature on the production of nectar has been overestimated—while the influence of temperature on the working capacity of bees has been correspondingly underrated.

Most beekeepers in Norway practice only stationary bee farming. But migrating is in steady progress, and the conditions are remarkably well adapted for this method. The clover flow and the heather flow do not occur in the same districts. The bees are wintered in one story and in well insulated hives. Cellar wintering is little used. The heather honey is bad as winter food, and sugar is considerably cheaper than honey. Accordingly we always feed with sugar in autumn. The swarm problem is the same as in the U.S.A., and we use the same swarm-control methods.

Of bee races, Carniolans, Italians, and Caucasians will be found, but the black Norwegian bee is dominating. It holds its own very well in competition and is doubtless better than the black bee of America. It is hardy and especially good for heather flow. Crossbreedings of the first generation seem to be the very best. Our queen yards have practiced methodical cross-breeding. Professor Ragnar Frisch of Oslo is working with this problem, and he has enounced a very interesting theory concerning the problem of heterosis with bees. He holds that the superiority of the cross-breedings depends upon the fact that many important factors are heterooptimal and not homooptimal. At present he is prosecuting elaborate experiments to throw a light on the problem.

The beekeepers are organized in Norges Birokterlag (The Norwegian Beekeeper Association, Oslo), which has sections all over the country. This organization has directed the progress of beekeeping in all domains and publishes its own periodical, the "Birokteren" (The Beekeeper). We have a standard hive which is constructed after the Anglo-American model, and on the whole our equipment is strongly impressed by American influence. Our standard frame is a shallow frame measuring 36.5 by 26 centimetres. It is used in the super as well.

We have our own standard packing for honey. In Norway the honey is always brought to market in the granulated state. We have a honey central in Oslo, and the beekeeper organization works a greater queen rearing station. (At present the leader of the station, Mr. Alfred Bergstu, is studying queen breeding in the U.S.A.) Queen breeding, however, is a difficult business so far north, as the season is very short.

The honey marketing and the control of bee diseases have been taken over by the State. Previously we had much foulbrood in the country, AFB as well as EFB. But after a thorough and systematic fight for 30 years little is left of these diseases. Acarine disease does not occur in Norway, but we have some Nosema and paralysis. We may say that the general health of the bees is better than in most other countries.

Beekeeping is taught at the agricultural and gardening schools. At "The State Training School of Small-holders" (Statens Smaabrukslaererskole) beekeeping is an important subject, and here some scientific investigations of bee culture problems are practiced.

Statens Smabrukslaererskole, Hvalstad, Norway.

Honey Dividends for the School Lunch

By Mrs. Benj. Nielsen

Take a tray of honey bran muffins, with delightful surprise centers, to the school.—Photo courtesy Kellogg Company.

How quickly those lovely, lazy vacation days sped by! Now the young fry, well equipped with luxurious coats of health-giving sun tan, an abundance of energy, sit decorously (?) at school desks, and mother once again is confronted with the lunch box problem.

Far too few schools sponsor the ideal hot lunch, well-balanced food program for growing boys and girls. If yours does not, maybe you can do something about it this year. Cooperate with your teacher, secure needed equipment, or assume responsibility for one week, along with other interested mothers of your district. Failing this, why not take a big pot of steaming hot honey-sweetened cocoa or chocolate to the schoolhouse frequently? Another time, wrap up a big tray of honey bran muffins, like the ones in the picture, with their delightful surprise centers. Take along plenty of fresh butter and some honey, too. It will make a big hit with the youngsters. And maybe you will be passing along a good honey recipe to boost the use of honey.

Kiddies adore finding a surprise sweet treat in the lunch box, and here's a super one that's easy to prepare and chock full of health-giving food values—and quick energy. Mold granulated honey around a nutmeat, walnut or pecan, and press into freshly pitted dates. Wrap in wax paper.

Do try these yummy fig newtons! Note there's honey in the cookie part and in the filling, too, making superb flavor in both.

Honey Bran Muffins
(Surprise Center)

Two tablespoons shortening, ¼ cup honey, 1 egg, 1 cup bran, ¾ cup milk, 1 cup sifted flour, ½ teaspoon salt, and 2½ teaspoons baking powder.

Blend shortening and honey thoroughly; add egg and beat well. Stir in bran and milk; let soak until most of moisture is taken up. Sift flour with salt and baking powder; add to first mixture and stir only until flour disappears. Fill greased muffin pans one third full, then drop in a spoonful of jam or jelly and add more muffin batter, making tins two thirds full as usual. Bake in moderately hot oven, 400 degrees F., 25 to 30 minutes. Yield: 9 muffins (2¼ inches in diameter).

Honey Fig Newtons

Dough: One half cup honey, ½ cup shortening, ½ cup sugar, one egg, juice and grated rind of one quarter lemon, 3¼ cups sifted flour (approximately), 1 teaspoon baking powder, ½ teaspoon soda, and ½ teaspoon salt.

Cream honey, shortening, and sugar together. Add well beaten egg, grated rind, and lemon juice. Mix well. Then stir in dry ingredients which have been sifted together, using sufficient flour to make the dough easy to handle.

Filling: Cut one pound of figs into small pieces, add ¼ cup water and cook until water is absorbed. Then add ½ cup honey, juice of ½ lemon, juice of ½ orange, and a dash of salt. Cook to a thick paste, being careful to avoid scorching.

Roll dough out on floured board, making a thin sheet. Cut into strips about six inches long and three inches wide. Place filling down the center and fold sides over. Lift carefully to greased pan and bake in moderately hot oven, 400 degrees F., about 15 minutes. Cool and cut sheets into bars.

Aurora, Nebr.

Observations of Unusual Conditions

A Good Crop Secured After All
By D. E. Weilacher

Large flower head of white fall aster, with all flowers open. Single plants often bloom from six to nine weeks.

Large late swarms like this, when hived on full sheets of foundation, often pack a ten-frame hive and one shallow super with aster and goldenrod honey.

The morning of March 19, 1947, the thermometer registered 4° above zero and the ground was still covered with several inches of snow. This was about normal weather for March in the vicinity of Kane, Pa. However, this is a radical contrast, when compared with the weather for this same period the past two seasons.

Most beekeepers in the Tri-State area will not soon forget the extremely adverse weather conditions and the resulting complications in colony and apiary management in 1945 and 1946. Here are several observations I made of oddities in bee behavior because of sudden extremes in the weather, particularly during the past season of 1946.

Bees started to carry pollen from aspens on March 15 last year. This was at least three weeks earlier than usual. After three or four days there was a heavy afternoon shower, followed by strong northwest winds in the evening. The following morning the north sides of the trees were coated with wet snow, with about two inches on the ground. By noon the sun was shining brightly and by two o'clock, with snow still sticking to the trees and the ground covered, the bees were roaring among the aspens over a large territory. This is the only time I ever observed bees working any source of pollen or nectar with the ground white with snow.

Three weeks of unseasonably warm weather in March in both 1945 and '46 were followed by more than a month of extremely cold weather, and all the usual early sources of nectar were frozen. Bees continued heavy brood rearing during this period and many colonies were up to swarming strength and did swarm by May 15. Swarms by Memorial Day are considered early here.

It was necessary to do considerable feeding in June to save colonies for later honey production both years. However, the first week in July, 1945, just as I was beginning to despair of ever carrying colonies through to the fall honey flow, the

September 20, 1946 — white fall aster and goldenrod in full bloom, side by side.

bees started to work on honeydew. This lasted almost all of the month and was heavy enough to cause some swarming and brought the bees up to the fall flow in the pink of condition.

Necessary to Feed During July

I found it necessary to do considerable feeding in July, 1946, to carry most colonies through in good strength for our fall honey flow which starts about August 10. Just as the fall flow was getting nicely started we had over two weeks of the coldest weather I can ever recall in August. Bees were confined to their hives the greater part of every day during the entire period. Most colonies were very populous, with eight or more frames of brood in each hive body, or little or no capped honey. This was one of the few times I have observed brood in the outside frames in a ten frame hive. The queens kept right on laying and after about ten days very populous colonies started to swarm. This is the only time I ever saw bees trying to swarm when the air was so cold they couldn't fly. On four occasions I observed swarms starting to issue during a few minutes of sunshine and then become so cold they couldn't fly as the sun was obscured by slow moving clouds. They would fly slower and slower and finally alight on trees, buildings, and grass, and sit there until the sun again appeared. On two occasions I saw swarms alight in this manner twice before they were able to cluster on a low hanging bush.

We expected a killing frost any night and the situation looked so bad I began to plan on killing off or uniting half of my colonies in an attempt to save the others. I also neglected to secure quite a few supplies I previously anticipated I would need.

Heavy Honey Flow in September

September brought most favorable weather and one of the most prolonged and heavy honey flows we have had in the goldenrod and aster sections in many years. The

(Continued on page 564)

September 25, 1946 — bees crying for more room. At least one super of honey has been removed from each colony.

Live and Learn

By Propolis Pete

Last summer a total stranger dropped in to call on me and tried to borrow my extractor. I told him that I might lend him my toothbrush, but not my extractor.

Of course, one of my reasons for refusal was that I didn't know him from Adam, and I would just as soon cash a check for a stranger as lend out my equipment. Another reason is that it takes about three hours to thoroughly clean it after using, and then another hour or two to set it up for use the next time I need it. And since twelve year old boys are asking a dollar an hour to mow lawns, if my time were worth as much as a twelve year old lawnmower, I should ask a fee of at least five dollars for the rental of a set of extracting equipment. And that would only pay for the time of cleaning and setting up. I would be denounced as a robber and Grade A racketeer if I had asked that much. Isn't it funny in these days of enlightenment how the owner of anything is scorned for the slightest indication that compensation is due for service rendered.

Aside from the above, I would not want to rent or lend any equipment, because so far I have never had foulbrood, and I don't want to get it via the equipment swapping route. Of course, it might be argued that it is stretching things pretty thin to say that foulbrood might be spread in such a way, especially if care is taken to make a thorough job of cleaning, but the possibility does exist, and strongly. So, even in these days of sulfathiazole, I don't take chances if I know what I am doing.

A beginner with bees should have only a few hives. Extracting equipment comes to quite a sizable sum that is all out of proportion to the amount of honey to be harvested. Therefore it generally is a serious problem the first year or two to dig up the cash to provide yourself with the necessary tools. This leaves out altogether the fact that equipment is still almost impossible to get, but that will soon be past history, I hope.

My advice to beginners comes rather late to be of any value this year, but unless you can make some arrangements for extracting, cut comb honey is the best bet for you. If you produce comb honey on thin foundation, you can cut it out of the frames and sell it in the comb, or you can crush it and let the honey drain out without spoiling what otherwise would be valuable brood combs for next year. Another way of getting liquid honey from the combs is to uncap it with a hot carving knife and then let it stand in a warm place until a fair part of it has drained out. If you try this, be prepared for the worst, for it is clumsy, impractical, wasteful, and messy. Outside of that it is the next best way to crushing the combs and letting the honey drain out through a clean cotton bag that has been moistened slightly before using. Don't soak the bag, just dampen it.

I will guarantee that anycne using these methods will start immediately to save money to buy an extractor next year.

[Another way, if white virgin combs are in use, is to scrape the cells containing honey off the midrib of each comb (using the rounded end of a hive tool), into a fine mesh cheesecloth placed in a dish pan. The edges of the cloth are gathered up and tied securely with a cord and suspended over the dish pan in a warm room and left until most of the honey is strained through. The midribs of the combs left are comparable to full sheets of foundation and can be used again.—Ed.]

Furthermore, I recommend that you do even more. Order it. If you have only a few hives and are short of money, you don't have to buy an elaborate setup. Most of the tools can be improvised, once you have the main piece of equipment. Nevertheless, remember that good factory made tools are designed to fill a need brought out by years of experience on the part of the makers. Another thing to remember when taking honey: It is pretty near the end of the year, and the bees have to eat from their stores and build up their working force from now until the start of the next season. If you have no fall honey pasturage and the spring flowers don't appear in quantity until next April, bees are going to

(Continued on page 563)

American Honey Institute News Notes

Mrs. Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

New Favorite Honey Recipes is a favorite in itself! Almost before the first copies were off the press, half the first printing had been ordered!

New Favorite Honey Recipes is really a top-notch book. You will know it the moment you see the artistic cover, the practical and attractive white plastic binding, and the lovely orchid and green color scheme. Your customers will realize its value at once when they try some of the 150 tested honey recipes. It's a book everyone will want to have. Make sure that you can offer it to your customers.

This recipe book was published for your benefit. Every woman who has a copy will need honey to try the tempting recipes. She will be so pleased with the results that she will want to use them often; she will need more honey. The excellent honey recipes in **New Favorite Honey Recipes** will help you sell more honey.

Place your order soon. The remaining half of the first printing is going fast! Requests for single copies of **New Favorite Honey Recipes** will be filled at 25c. Write the **American Honey Institute** for prices on quantity lots.

* * * * *

Honey is riding the air waves! Be sure to tune in to the "Crime Photographer" radio programs this month. The program of Thursday, September 11, 18, or 25, at 9:30 P. M., Eastern Standard Time (we don't know just which date it will be), will carry some excellent honey publicity. Don't miss it!

Members of the Institute will be advised of the exact date in the monthly news bulletin to members.

* * * * *

How is your supply of honey literature? Remember that there will be heavy demands on it now and in the immediate future. You will need an extra supply for your new honey crop, for distribution at Fairs, for special honey displays and exhibits, and for **National Honey Week.** Send for a newly revised copy of **Honey Selling Helps,** an illustrated list with prices of the books and leaflets that will help you sell your honey.

* * * * *

Honey calendars for the year 1948 will be ready on October 1. Everyone needs a calendar. Honey calendars are especially useful. They are pocket-size and sturdy enough to stand a whole year of use. The attractive new design on the 1948 calendars will be a daily reminder of honey. That's the best publicity honey can have!

Only a limited number of honey calendars will be printed, so order your supply soon.

* * * * *

This year the **American Honey Institute** has sent over 80,000 leaflets to teachers of Home Economics throughout the nation, and over 30,000 leaflets to Home Demonstration Agents. This method of distributing reliable and informative material about honey is valuable to the honey industry because it reaches persons who are especially interested in good food and nutrition. They want information about honey. The financial support of our members enables us to give it to them. This is not only a public service, it is good publicity for honey.

* * * * *

The American Honey Institute serves the entire honey industry. It stands ready to serve you, too.

* * * * *

Honey days ahead! October 26 through November 1 is National Honey Week. Honey will be in the spotlight. Watch for special announcements in national magazines and for special releases in your newspapers.

* * * * *

Every person engaged in selling honey should put forth extra effort to make sure that National Honey Week is fittingly celebrated.

Plan a special exhibit in honor of this event. Remember that we have special leaflets and gay golden window streamers suggesting ways of serving honey. Send for samples today. Honey week is only a month away!

New Zealand Capping Melter that Does Not Injure Honey

Rv W. B. Bray

[The writer of this article is not only one of the leading producers of New Zealand but also an author. His writings on beeswax through the years have always been interesting and sound. He is a real authority on the subject.

Propolis varies a great deal according to the locality and plant from which it is gathered. Some of it contains resins of such low melting point that they will soften and sometimes fuse at high room temperature. It is a great advantage to get rid of the honey first at a relatively low heat.—Ed.]

In dealing with cappings, the problem is twofold—to recover the honey without impairing its flavor and color, and the wax without spoiling its color and purity. When sealing the honey the bees are prone to use particles of propolis and fallen brood cappings with pure wax scales. The amount of this foreign matter diminishes with the distance from the brood nest and the rapidity of the flow. The amount of propolis varies with the locality, from practically none to an excess. Where cloth mats are used, the bees will propolize the edges of the top bar to the mat and if the uncapping operator scrapes the top bar into the cappings he will spoil the wax unnecessarily. (I pointed out this mistake in a booklet on beeswax which I published in 1920.) There is likely to be enough propolis already in the cappings without adding more.

The propolis contains natural resin and essential oils and stains according to the trees it is gathered from. One of our native trees yields a very dark brown propolis, almost black, which stains the wax a dark mahogany red. Color and purity are both affected by the presence of propolis, the result being a deterioration in the usefulness of the wax. The extent to which propolis affects the wax depends on the rate at which heat is applied, the time it continues, and the presence of water. The propolis has a higher melting point than beeswax, so that the greater the heat, the more resin there is in combination with the wax.

Any method of rendering cappings which melts the wax with the honey spoils both. The honey reaches the temperature of melted wax and this heat alone is enough to spoil the color, but the presence of melted propolis stains both the wax and the honey, and imparts some flavor as well to the honey. With the above points in mind I reasoned that if I could apply heat to the cappings gradually so that the honey could come away first without coming into contact with the melted wax it would not suffer from heat or staining. That was the object I had in view when I used a solar heated tray. I used slats to hold a wire screen up half an inch to allow the honey to run away. On the wire screen I laid cheesecloth to catch the slumgum and so prevent its sticking to the wire. A can large enough to hold both honey and wax was placed underneath so that it would catch the flow and yet be out of the main heat of the sun. With this method I satisfied myself that the principle was correct; but as the sun here does not shine long and often enough to do the quantity I had to turn to artificial heat.

Electricity was the answer. I built an insulated cabinet with three shelves and four heating elements so each shelf had an element within it and the fourth on the ceiling. To allow for the heat rising, each element was slightly hotter than the one above it. The shelves sloped towards the rear with a fall of three inches. Each shelf carried a tray made of 20-gauge tinned steel, with sides six inches deep. Movable wire screens covered the trays, resting on beads or studs half an inch deep. The sides converged at the lower end to narrow the opening through which the honey and wax passed. To prevent the slumgum from going over, a wire rail across this opening held the cheesecloth by pegs. In the floor at the back was an opening through which the honey and wax fell into a separator can, surplus honey flowing through a siphon and surplus wax direct from a lip set an inch higher than the honey overflow. The whole cabinet was mounted on legs to accommodate the can underneath. Later I added a red light on the switch and another outside the building as a safety measure to remind me that the oven was on.

It was important to switch off as soon as the cappings were completely melted, or just before. It could then be left to allow more wax to drain away. It was better to remove the cloths while still hot, shake the slumgum into a can, rinse the cloth in hot water and pour the water into the slumgum, and stir to prevent it from setting solid. Later the cloths and the slumgum are boiled and pressed, the cloths again washed and boiled with soda to clean them for further use.

The main block of wax from the overflow and on the top of the honey is a light yellow color and practically free from propolis. What is rendered from the cloths and the slumgum is a different quality and more like that rendered from old combs. The proportion is better than 3 to 1. The cappings were drained for a day or more in a Dadant uncapping can. An average loading produced 90 pounds of honey, over 25 pounds of first grade wax and 7 or 8 pounds of second grade. It represented the cappings from 21 cwt. or when I could count 20 blocks I had 21 tons (47,040 pounds) of crop.

After I had used one of my own making for a few years, I had the oven described above built by a firm which specialized in building bakers' ovens. The first time I used the new one was at a Field Day. The Government Honey Grader was present and took a sample of the honey which he pronounced to be equal in every way to the bulk. The current consumption is 1½ units per hour and it takes 4½ to 6 hours or more, according to the load and outside temperatures. The price at £60 ($250) in those days was a bar to its sale generally, but many of our producers have since then made their own ovens on the same principle and have continued to operate them. It is probably due to this that the quality of the cappings wax offered in New Zealand today is generally very good.

A number of our producers who have steam boilers in use have adapted steam for heating the oven. They use a gang of four or more steam pipes on which the trays rest. If anything, the steam heat is even better as there is a longer safety margin at the last, when the dried honey on the trays is liable to cook, in which case it has to be washed off with hot water.

These ovens, both steam and electric, have another use in clarifying honey in glass to give it that extra brightness which makes liquid honey so attractive and keeps it liquid for several months.

Another advantage in this method is that there is less honey to heat than when cappings are melted straight off the knife. Also the heating is done where it does not make things uncomfortable for the operator.

By the time a hundred tons of crop has been dealt with, the oven has paid for itself in the extra value of the honey that has gone through it. I have used this method for over 20 years now.

Christchurch, New Zealand.

West of Scotland Apicultural College's Moorland Apiary for research in heather honey.

From the Field of Experience

THREE ADVANTAGES OF PROPERLY LOCATING A HIVE

By Neil C. Gundry

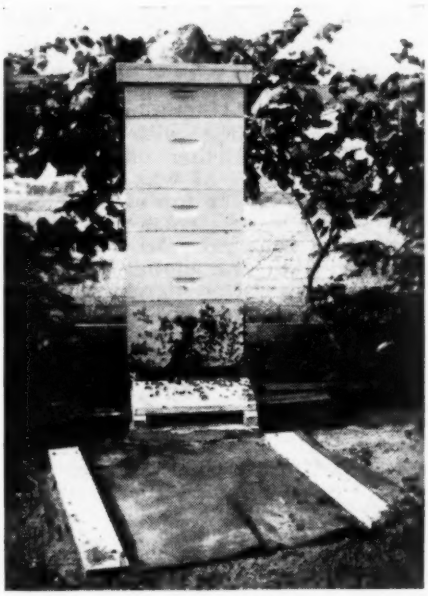
The accompanying picture illustrates three things that I find very helpful.

1. Grapevines provide some shade but mostly make bees fly high so children passing by are not molested by flying bees. In fact, the ball lot is right back of my apiary.

2. Each hive is set between spruce trees. These provide scattered shade and make excellent windbreaks and slow up beating rains.

3. The tar paper in front effectively controls the weed growth and makes it easy sometimes to ascertain what has happened inside—such as finding a dead queen out there, or, as in one case of a clipped queen, I found her out there trying to get back in—thereby disclosing that they had tried to swarm. It also provides a good place to shake them, if necessary.

Drayton Plains, Mich.



Glimpse of Beekeeping in Cyprus

By George P. Georghiou

The picture may be of interest, not because it is unusual or well arranged, but because of the typical dress of this Cypriot villager. This man keeps bees in old fashioned hives and came to visit our apiary to get some explanations on modern hives and manipulation of colonies.

You will notice his particular kind of breeches. These have been worn by all our villagers for some thousand years. In old times before Christ's birth they wore shirts just like all ancient Greeks. Look at the lost expression on his face. Like all men, he appears lost when he faces for the first time a somewhat modern apiary. Our hives are built according to the English and American style.

Famagusta, Cyprus Island

Hiving a Swarm

1. This shows a nice swarm away up in a tree. 2. This is E. F. Norris, Charlottesville, Va., up on a ladder cutting off the branch on which bees are clustered. 3. The swarm ready to be shaken in front of the hive. 4. The bees on their way into their new home. It all looks simple—if you know how.

Second Glances

By C. M. Isaacson

Hard-to-control factors can account for variations between different colonies, A. R. Mallory states in his article (page 449). He goes on to list some of these factors, and I think that most observant beekeepers will agree with much he says. It is true, certainly, that it is next to impossible to make every nucleus identical with the next in the matter of bees, combs, availability of fresh nectar and pollen, etc. And the bees themselves that are used often determine how well a queen may do by feeding her well and making ready sufficient cells — or vice versa.

Well planned honey houses are a pleasure to see. Harold Kitsen has evidently given considerable thought to such planning. That rectangular tank would seem to be more efficient than a round one, both in utilizing space and in allowing air bubbles and wax to rise to the surface. And placing the equipment along a wall is good, especially in a smaller house (page 451).

A simple queen rearing procedure certainly should be of value to almost every apiarist. Mr. Phillips' hive and method are both such as to be easily adaptable for anyone and the advantages as he lists them certainly outweigh the disadvantages by far (page 454). The smaller beekeeper, especially, should like the fact that the queen rearing colony will also be a honey-gathering one. It is worth trial.

Interest in honey plants other than the traditional clovers is high of late, so Leroy Wilson's article is timely (page 456). His mention of anise prompts me to say that there is a good deal if it growing along ridges in this territory, and while bumblebees and various solitary types literally swarm over it, honeybees do not work on it in any great numbers unless they have no clover in bloom. Perhaps there is a variation in its nectar secretion, as with many other plants.

The four questions Grant Morse heads his account with (page 458), really are only two—the first three could be stated in one—"what is the controlling force in a honeybee colony?" I believe it is Allen Latham who has stated that this force lies in bees of a certain age in a normal colony (bees of any age assume duties more quickly in case of necessity) and how little a queen has in this control. She is, in fact, only an egg-laying machine whose destiny is wholly under the controlling workers.

Bees have intelligence, says Prof. Schiller. Many will disagree, despite his fine resume of the different means of communication observed in honeybees. Rather say that a Higher Intelligence is used by them through the means of instinct; which after all is no disparagement,but puts them perhaps even closer to the source of all intelligence (page 460).

Control of Nosema by use of packages instead of wintering over colonies is a suggestion to be considered carefully by those in localities where this disease is severe (page 464). And giving booster bees after a package is established has proved profitable in many cases —although in others it is unnecessary. But a word as to the influence of heredity on variation between colonies—the heredity of a honeybee is very complex—so much so that even many generations of line breeding can be upset by a few mismatings.

Robbing can be very sudden and very complete, as Propolis Pete relates. But his method of "rehabilitating" his little observation hive was sound—a very small entrance (page 503). And may I add that I like very much the way he ends his account of attempting to winter this colony—"it didn't work". More power to you, Pete—you weren't afraid of your failures.

A new honey recipe book! If "New Favorites" is equal to or better than our well used "Old Favorites" every beekeeper should use them liberally. Read that concluding sentence of the Institute (page 473) over—one beekeeper trusts to luck to repeat orders — the other tries to make sure of them. The **American Honey Institute** will be our efficient helper so that we may be the last kind.

Thief River Falls, Minnesota.

Annotations

By Prof. A. Z. Abushady
United Nations, New York

Equalizing Stocks. — Mr. Mallory's article (p. 449) is a reasonable survey of the factors contributing to the fortunes (or misfortunes) of would-be colonies. A number of these factors could be controlled by the beekeeper, and I wish to emphasize particularly the one factor which is often neglected, namely "equalizing" stocks. This is easily done where a fair number of colonies exist and form the background of the apiary. Opportunities will lend themselves to the beekeeper, whilst examining his colonies, to balance his stocks and strengthen his nuclei from over-breeding colonies, thus relieving the latter within reason of a strong inducement to swarming and saving backward lots from further deterioration. The presence of young bees from the donated emerging brood is an insurance against failing queens. Such bees will in time prepare for supersedure, should the beekeeper himself fail to requeen. This practice judiciously carried out will create a maximum of productive stocks and a minimum of those that require uniting at the end of the season.

Swarm Behavior.—The interesting observations by Dr. Morse (p. 458) are not usually met with in a country where existing bees are inclined to swarm, as encountered in Egypt. My answers to his queries are as follows: 1. The force of a swarm may not all come out consecutively, through some hindrance in a crowded hive with several stories, the removal of the inner cover providing both encouraging exit and greater light stimulus. Similarly, in hiving a swarm a fair number of the bees may enter the uncovered hive from the top, instead of running through the entrance. 2. The experience narrated suggests that the swarm was headed by a virgin, in which case additional virgins may be present, this being particularly pronounced with African and Oriental bees. These virgins, as I have frequently noticed, behave erratically, unlike fertile queens. Some join the swarm (or the combination of casts); others may be found distributing themselves amongst other hives, whether entering them or trying to do so with the guard bees sometimes balling them, otherwise they might get balled inside the hive or they may succeed in being accepted, killing the original queens. 3. Strange bees, apparently through sheer curiosity, may intrude on a swarming colony and become objected to by the remaining bees who are not involved in the swarming phenomenon and therefore are alert to the ordinary stimulus of home defense. 4. Bees dissatisfied with a location, for whatever reason, are under a common impulse of immigration. But my impression is that they never move until the queen chooses to do so, just as they will not leave the hive until the queen starts to sound the swarming call. Many incidents give me this impression.

British Experiences with Sulfa.—The Am. B. J. for August (p. 379) summarizes British experiences with sulfa, given by Mr. P. S. Milne in the journal of the Ministry of Agriculture, as shown in the results arrived at from experiments carried on both at Rothamsted Experiment Station and in cooperation with 12 beekeepers at various locations. Whatever is said about the non-response of some colonies or the reappearance of the disease following cessation of treatment, the pronouncement that "sulphonamide treatment has a great deal of promise" is significant. It means that more than half the battle has been won. It means that we have a sound foundation on which to build various modifications of treatment, whether with different sulfa preparations or with combinations of drugs and methods. Instead of disparagement, attention therefore should be given to active and coordinated team researches.

A Talk to Beekeepers

By M. J. Deyell

September Days

If there are any more beautiful days than are found here in northern Ohio during late September, I would like to see them. But somehow such days, beautiful as they may be, bring a tinge of sadness, because summer has gone, autumn is with us, and winter is just around the corner.

Even the bees appear to know what is ahead. During warm days and cool nights the queens begin to restrict their egg laying, the bees fill the combs of the brood chamber with honey and pollen rather than carry it into the supers, and they are likely to work somewhat listlessly at times. They appear to appreciate a respite from the long arduous days of labor during summer months.

Differences in Localities

In most of the so-called clover regions, bees store little if any surplus during September. Fortunate is the beekeeper who has reserved enough honey for each colony in a brood chamber for use during a late fall, winter, and early spring months. In most clover regions bees are likely to make a living during September, and if so, the owner of the bees is thankful.

Some beekeepers in such regions have not reserved an ample amount of stores for winter and early spring, so feeding of sugar syrup has to be resorted to. It seems preferable to feed thick syrup, two parts granulated sugar to one part of water, to make up the deficiency in stores rather early in the fall before the weather gets too cool to ripen the syrup properly.

There are various kinds of feeders. The friction-top pail method is quite popular. Puncture the lid of a ten pound pail with about a dozen holes made with a 3-penny nail. Fill the pail with syrup, put on the lid, and place it upside-down over the frames of a brood chamber in order to let the bees take the syrup. It is usually necessary to place an empty hive under the cover on top, temporarily, while the bees are taking the syrup, in order to make room for the pail, or as many pails as are needed to feed the required amount of syrup.

A scale hive is handy in that it serves as a barometer for the honey flow.

In some sections of the country there is a good honey flow during September from goldenrod and asters. We have had swarms during September, but this is the exception rather than the rule.

In order to secure surplus honey during the fall months, it is necessary to have the colonies very populous with bees. The reason some beekeepers do not secure larger crops of fall honey is that they do not have their bees in proper condition to take advantage of the flow.

A Fall Flow in October

Four years ago this fall I experienced an unusually late fall honey flow from white asters. The month of September that year was quite cool. The first two weeks in October brought summer days with mercury up to 80° most of the time. Many of the fields near our bees were white with asters. The bees brought in honey at the rate of five or six pounds a day. In fact, I put on supers the 8th of October and got most of them filled. I averaged 75 pounds per colony from one yard and the brood chambers were crammed full of honey for winter.

Fortunately we had a spell of warm weather following this flow, which permitted the bees to properly cure the honey to make it suitable for winter stores.

Earlier that season it looked as though I would have to feed sugar syrup to make up the deficiency in honey. This simply goes to show that we never know until the close of the season what the crop actually will be.

The Last Roundup

In regions that give a fall flow, beekeepers have an opportunity to check through their colonies thoroughly in readiness for winter. If any old worn-out queens are found, they should be removed and replaced with young laying queens. Most of the old queens that are permitted to remain in colonies are likely to be superseded next spring either during the fruit bloom honey flow or at the beginning of the main honey flow. Such supersedure is likely to reduce the amount of surplus stored.

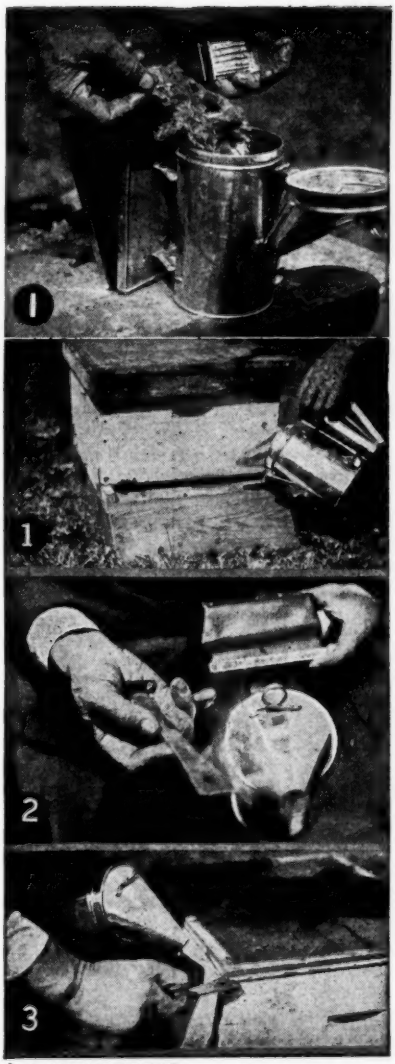
As a rule queens are more easily introduced during the late fall months than they are earlier in the season. We find it is difficult to get queens introduced successfully during the spring months, especially during May or early June.

Winter Nothing but Strong Colonies

It hardly seems necessary to make this statement. However, we get letters from beekeepers over the country wishing to know if it is wise to divide colonies during early fall in order to increase the size of their apiaries. With expert manipulation it may be possible in some regions where there is a good fall flow to divide very strong colonies at the beginning of this flow, giving the queenless divisions young laying queens and having the divisions build up into colonies sufficiently populous with bees to go through the winter. Generally speaking, such a procedure is not profitable because the divided colonies may not have time to build up to proper strength for wintering successfully.

In our opinion it is preferable to have one real populous colony in the spring rather than four or five weaklings. It is sometimes possible to winter a colony that is below par in strength. However, if such a colony does go through the winter, it is likely to be a liability the following spring because it is weak in bees and really should have a package of queenless bees added to strengthen it. This means labor and expense.

On the other hand, a very populous colony, such as is sometimes wintered in a three-story hive, is strong enough in the spring to divide at the beginning of fruit bloom and with proper management both divisions can be brought up to good strength in time to take advantage of the clover honey flow. This, however, means expert management.



1. Lighting Smoker.
1. Blowing a little smoke in the entrance.
2. Grasping the hive tool properly.
3. Inserting tool at corner of inner cover.

A Scale Hive

For a number of years we have had a scale hive near the Gleanings office. As a matter of fact, it is di-

rectly west of my office. Each morning I mark down the weight of the hive. This gives us a fairly good idea of what the bees are doing in out-apiaries, although conditions with respect to a honey flow may vary somewhat in different yards.

It is customary to take the weight of a scale hive quite early in the morning before many bees have gone to the field. The largest gain in one day during the past season was six pounds. It is not uncommon for a hive to gain 16 or 20 pounds in one day. The highest daily gain I have heard of occurred in Michigan during the season of 1936 when a very populous colony made a gain of 36 pounds in one day. That same colony put up between seven and eight hundred pounds that season. That is an authenticated report. I have a brother, a commercial beekeeper in Ontario, who had a colony in 1916 that made a gain of 26 pounds in one day during early July.

It is interesting to get the weight of a scale hive late in the evening after the bees are in and then get it early next morning. It is interesting to see how much the weight of the colony shrinks during the night. For example, a colony that makes a net gain of eight to ten pounds in a day will lose two or three pounds during the night as a result of the bees driving off the excess moisture.

Clover Honey Crop not Good Around Medina

Early this spring conditions appeared to be fairly favorable for a crop of white honey. The soil had plenty of moisture. Clover plants looked thrifty. It would seem, however, that we had too much rather just enough rain. Just as the honey flow was well started, we had a cool spell of weather which spoiled conditions for nectar secretion. We did secure some surpuls honey from basswood which in this area does not yield regularly.

I had intended carrying out some experiments with reference to producing honey in supers containing drawn combs alternated with empty frames, as mentioned in my article found in July Gleanings. The honey flow is not heavy enough to make the experiment worthwhile. However, I did find, as I had already found in previous years, that bees will build straight combs in empty frames from which defective combs have been cut, these frames to be alternated with regular drawn combs.

Just last evening I extracted some honey with a two-frame power extractor in my basement. Some of the combs extracted were unwired and not a comb was broken. However, these combs that are built in frames placed between drawn combs consist of drone cells which seem to be so tough that they will stand up under ordinary handling and will go through the extractor without breaking. As mentioned in the article referred to, these drone combs can be cut out of frames in order to increase the amount of wax produced.

An extracting super with nine combs. Wider spacing makes combs easier to uncap.—Photo sent by A. W. Kruse, Des Moines, Iowa.

Just News

The New Rochelle Beekeepers' Association will hold its next regular monthly meeting at 2:30 P.M. on Sunday, September 21, 1947, at the Allen Reservation Boy Scout Camp under the direction of Mr. Walter Littlefield, located on Mamaroneck Avenue, Harrison, N. Y. After the general meeting various hives on the premises will be opened and inspected. Come early, bring your picnic lunch, and plan to spend an enjoyable afternoon in the country. Visitors are always welcome.—B. F. Miller, Publicity.

* * * * *

The seventeenth National Honey Show will be held September 5 to 7 at Wimbleton Common, London, England. The purpose of this show is to focus attention on honey—nature's choicest sweet.

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The New Jersey Beekeepers' Association will hold a field meeting at the apiary of G. Wesley Florance, Clivedon Road, Hohokus, Bergen County, on Saturday, September 20, 1947, commencing at 10 o'clock A. M. This is expected to be a large meeting and will be held rain or shine. Bring lunch and enjoy the social hour at noontime. — E. G. Carr, Sec.-Treas.

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The Florida State Beekeepers' Association will meet in Orlando on October 13 and 14 in Angebilt Hotel.

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The new banner of the North Jersey Beekeepers' Association will fly from the yardarm of the Manor Apiaries flagpole on September 14, when the association holds its last field meeting of the season. M. J. Devell, Editor of Gleanings in Bee Culture, is scheduled to speak at the meeting, which is expected to top all attendance records for the year. The meeting will start at 11 A. M. in the form of a picnic lunch with the business portion of the meeting in the afternoon. Refreshments both liquid and solid will be served.Coming from Kinderkamack Road, turn down the hill on River Edge Road at the Firehouse in River Edge and follow the yellow and black signs to the meeting. Manor Apiaries at River Edge is operated by our president, R. Parker Hamilton, and the home yard boasts of twenty seven hives.—Richard Geoghegan, Sec., Lyndhurst, N. J.

* * * * *

Theodore C. Wheaton, Jr., passed away while on vacation in Las Vegas, Nevada, on July 11. He was one of the most prominent beekeepers in Bergen County and one of the organizers of the North Jersey Beekeepers' Association. Mr. Wheaton was known as just plain "Teddy" to all his fellow beekeepers, and had that enviable trait of being able to make all of those he met like him. He was champion of all that was good in beekeeping, and operated the second largest apiary in Bergen County.

* * * * *

The East Tennessee Beekeepers' Association met at the Lowland Apiaries operated by W. D. Reams, Morristown, Tennessee, with over 75 in attendance. The meeting began in the morning at 10:30 A. M. and continued until noon during which time John M. Amos, State Apiarist, used an observation hive to make points of interest and to illustrate his talk. In the afternoon the group decided to change the name of the organization to the Eastern Branch of the Tennessee State Beekeepers' Association and thus become a part of the State Association. A similar branch was organized in West Tennessee last winter. Officers elected were: President, W. D. Reams, Morristown; Vice-President, R. S. Beeler, Rutledge; and Secretary - Treasurer, Mrs Mary Faulkner, Bristol. The meeting next year will be held the first Friday in August or August 6 in Sevier County. The place will be announced later. — John M. Amos.

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Come On Down

The Southern States Beekeepers' Federation will hold its annual convention at the Buena Vista Hotel in Biloxi, Miss., on November 27 and 28, 1947.

Biloxi is the second oldest city in America. It is located on the Gulf of Mexico about half way between

(Continued on page 557)

Asked and Answered

Supplying Full Sheets of Foundation Reduces Swarming

Question:—I have had very little swarming in my 25 years of hobbyist beekeeping. It has been my theory all along that it is a natural function and desire of the bees to produce wax and build comb. This desire is satisfied when they swarm, because then they must start from scratch. To give a colony the opportunity to carry out this instinct I always place at least one frame fitted with foundation only, in each brood chamber just when the bees start bringing in pollen. This apparently works according to theory, for no swarms have ever been cast from a hive so treated.—Clarence W. Carroll, New York.

Answer:—Your idea of supplying colonies with some frames with full sheets of foundation in order to keep the bees busy building some combs, seems to be worthy of consideration. It is a fact that bees do secrete considerable wax during a honey flow. If they have a chance to use this wax, this keeps the wax-builders busy. If they do not have an opportunity to use this wax, wax - building bees may not find enough work to do and consequently may help to develop a swarming impulse, especially if the hive is crowded with bees. It is congestion within the hives that is said to be the prime cause of swarming. A few years ago, when producing section comb honey, when we found advanced queen cells in the brood chamber we removed five combs of brood and replaced these with frames containing full sheets of foundation, alternating the sheets of foundation with combs of brood. In reality this split the brood nest into five parts and kept the bees busy building wax for a time until they gave up the idea of swarming. You have a similar theory and it sounds feasible. It must be said however that in some seasons when swarming is really bad, practically all methods of swarm control may fail.

Moving Bees a Short Distance

Question:—I have six colonies of Italian bees that I would like to move about 200 feet. How would I go about this?—James L. Toudt, Wisconsin.

Answer:—There are three methods of procedure. One consists of moving the bees to a new location two and one half or three miles away, leaving them on the new location for about a week or ten days, then moving them back to the desired new location near-by. The second method consists of moving the bees two or three feet each day until you get them onto the new location. This is rather tedious. The third method consists of moving the bees late in the evening after all of the bees are in the hives. Place the hives on the new location, then put some pieces of sticks or brush over the entrances of the hives so that when the bees come out of the hives in the morning they will notice the unusual obstructions and will then be more likely to mark their new location. Some of the old bees may fly back to the old location, but if you do not leave any empty hives or anything that looks like a hive on the old location, these bees that fly back will simply circle around a few times, then, finding no hives to enter, will return to the new location. We are quite sure this method should prove sucessful, but be sure to put some brush in front of each hive, as already mentioned. This brush should of course be removed after the bees become oriented to their new location.

Bee Stings for Rheumatism

Question.—What beneficial effects do bee stings have on people suffering from rheumatism? How many and how should stings be administered?—Morris E. Driggriss, Jr., New York.

Answer.—It seems advisable to apply bee stings for rhumatism or arthritis only after a medical examination and under the direction of a competent phyician. The late Dr. B. F. Beck of New York City was quite successful in treating patients suffering from arthritis with bee stings. He had a small hive of bees in his office with the entrance of the hive extending out through the window. He would catch the bee by the wings with a pair of rubber tweezers, apply the abdomen of each bee to the part of the anatomy affected with arthritis. The sting protruding from the abdomen would enter the flesh. One of Dr. Beck's students, Dr. R. L. Carey, N. Larchmont Ave., Los Angeles, California, is still carrying on this treatment.

Protective Quarantine in Cameron and Hidalgo Counties, Texas

In order to facilitate the work of eradication of American foulbrood among bees in the Lower Rio Grande Valley of Texas and as a protective measure against possible spread of this disease and other infectious disease of bees which in the future may be introduced, a protective quarantine is hereby declared on Cameron and Hidalgo Counties, effective October 1, 1947, under the provisions of Section 8, Chapter 51 of the General Laws of Texas, Thirty-Third Legislature.

The movement or shipment into Cameron or Hildago County of honey bees on combs, second-hand bee equipment or appliances capable of transmitting American foulbrood or other infectious disease is hereby prohibited except under the following rules and regulations:

1. Application for permit must be made to the State Entomologist, College Station, Texas, showing the number of colonies to be moved into the above area.

2. Applications must be accompanied by the following:

   a. A Statement of Facts concerning occurrence of foulbrood, feeding of sulfathiazole and a certificate from a duly authorized inspector, or affidavit where no inspection service is available, showing the apiaries where the shipment originated to be free of American foulbrood and other infectious disease of bees.

   b. Sufficient information including subdivision block and lot number, and other facts concerning the proposed location of each yard, so as to enable the State Entomologist to spot the location of the proposed yard or yards on a large scale map.

3. When the information called for in the application is in order and, in the opinion of the entomologist or his inspectors there would be little danger of American foulbrood getting out of control, the locations will be registered by the State Entomologist in accordance with the priority rating attached herewith (see below), based on the facts available.

4. After locating the bees, each yard **must** have the name and local address of owner or manager so displayed on or near the equipment that it can be quickly found and is plainly legible.—F. L. Thomas, State Entomologist, College Station, Tex.

Tentative Priority Rating Used in Registering Bee Yards 1947-48

1. (a) Home place where beekeeper or caretaker is living—whether owning or renting.
   (b) Property owned by the beekeeper, but not his home place.

2. Length of time — number of years a location has been occupied all or part of the time each year and cash rental or money paid to Lessor in 1946-47, or if form of payment was made to you for placing your bees in the location.

3. Accuracy with which location is indicated, thereby enabling State Entomologist to pinpoint it. A 1946 map on a scale of 3000 ft. to the inch is being used in this work.

4. Order in which application is filed.

NOTE: If a location registered by a beekeeper is not used by him for his bees or bees in which he has a controlling interest during any part of the year, it shall be considered as vacant the following year, unless extenuating circumstances occur. If extenuating circumstances should occur that prevent occupation of an old location for a year, it may continue to be held by a beekeeper the following year providing it is duly registered.

"Now, Jasper, don't coddle them."

Editorials

Honey Prices The topic of greatest interest at summer beekeepers' meetings has been "What is the price of honey going to be this fall?" There are a great many factors that have an effect in setting the market, and it is difficult to evaluate these in their proper importance. To begin with, we find that the crop over the country is decidedly below average and this is true particularly of light table grade honey. This in itself should have a strengthening effect on the market. The importation of foreign honey was much greater in the winter and spring months of this year than it had been in previous years. Normally no great amount of light honey comes into this country from foreign sources. The bulk of it has gone in the past to Europe. Light grade foreign prices have been firm. It is unlikely, unless this country pays a high premium as it did last winter, that more than normal supplies will enter the country this fall.

Granulated sugar stocks seem to be quite adequate and in most parts of the country housewives appear to be getting all they need for the table and canning use. This brings a certain amount of competition with honey and no doubt to some extent will have a depressing effect on the price. Probably the effect will be greatest on the industrial grades. The movement of honey has been slow on the retail shelves in the last three months but this is not an abnormal condition during the warm months of the summer.

Looking at the overall price picture in the country the general commodity market moved up rapidly to a new high in March, then dropped back about 10% in June, and is now back nearly to the March high. Most of the items that a beekeeper buys are higher than a year ago and many of these items are tending upward in price at the present time. They rightly ask, "Why should it be necessary for us to sell honey at a price below last year?"

With the elimination of the ceiling prices on honey a year ago the price rose rapidly. While many beekeepers did not receive some of the top prices that were asked, nevertheless the price did rise higher than it was possible for the demand to maintain for an extended period of time and some reaction could be expected. It is our belief that the present uncertainty in the honey price is evidence of this reaction but we see no need for the price to shrink to a point where it will cause a hardship for producers.

Get Honey Back on the Grocery Shelves During the past three or four years we have had hundreds of inquiries as to why honey is no longer on the grocery shelves, and if it will ever come back. It is possible and even probable that the manufacturers, unable to get sugar in quantities necessary for their business, could get honey, so would buy it at any and all prices, with the result that the price of honey went up.

Unfortunate in a way, but possibly a blessing in disguise, this season has been a failure in many important localities where honey was produced by the carload. We refer particularly to California where the season has been rather poor. On account of unusual weather conditions the crop is short in many localities, especially in the white clover regions where continuous rains and cold weather lasted well into July when hot dry weather prevailed. By August 10 we had had three weeks of drouth. This general shortage of honey probably will have a tendency to hold the price up, even though sugar begins to sag and quantities can be had.

If the beekeepers who have honey and see a sag in price unload or bid against others who have honey, the result could be a lower market price even in spite of a low supply of honey.

At recent meetings which we have attended we have seen some tendency in beekeepers to underbid each other in order to unload the small holdings. It should be remembered that during the "dog days" of August, customers do not ask for honey as they do in the cooler weather.

There is a general belief that the price of honey along in October and November will hold its own.

At the Michigan State Meeting in Frankenmuth on July 30, 1947, R. H. Kelty, State Apiarist, at the close of the session, held a round table discussion on the price of 5-lb. pails. Most of those who took part answered $2.00 per pail, others saying they were selling at $1.80 and $1.60 because sugar is more plentiful. Prof. Kelty took the position that price cutting at this time of year would not result in a larger sale of honey—that we would have to wait until cooler weather until the buying public was ready to ask for honey. The general consensus seemed to be, "Don't be in too big a hurry", and don't undercut your neighbor because he may "go you one better".

Too Early to Condemn the Sulfa Feeding? When the sulfathiazole treatment was first brought to the public by Dr. Leonard Hazeman of the University of Missouri, Columbia, Missouri, new hope was aroused that the time had finally come when we could conquer our very worst enemy, AFB. Opinion ran so highly in its favor that mistakes were made. In the meantime science showed that the drug does not kill or inhibit the spores of AFB. Should we not go slowly and await results? That feeling was quite freely expressed at the Tampa meeting in January, 1947.

Now it seems apparent that some who violently opposed the treatment in the beginning are coming out in favor of it under proper restriction. We have enough confidence in the integrity of all the men in the field who are trying to suppress foulbrood by any and all means, to believe that they will welcome the day when it will be possible for the beekeeper to apply treatment with safety. That day has not yet come and may never come, but if the sulfa treatment proves to be a success so that it can be recommended officially by bee inspectors in the United States, it will be more important than ever to continue state inspectors, because history has shown that there is apt to be a recurrence of AFB after the first treatment with sulfathiazole. If so, those colonies should be reinspected.

Some inspectors have asked their legislatures to broaden existing foulbrood laws so that the mode of treatment for AFB may be left optional with the bee inspector himself. This simply means that it should be left with the inspector to determine when the sulfa treatment should be recommended and used. A few inspectors have inquired if they allow A to apply treatment with the new drug how can they avoid allowing it on the part of B? That is a fair question. But it is not necessary to tell either man if they are some distance apart, what mode of treatment he shall use. In some cases the disease is only in the incipient stage and, in the judgment of the inspector, the sulfa treatment can be safely given.

An isolated case may be so far advanced that in the inspector's judgment all infected material should be burned.

New Method of Applying Sulfathiazole While in attendance at the Michigan State Beekeepers' Meeting in Frankenmuth on July 30, we heard Mr. Kenneth Farner of Flint, Michigan, explain how he successfully used a mixture of sulfathiazole and wood alcohol in the treatment of AFB.

Instead of using sugar syrup as a medium for carrying the drug, he followed Allen Latham's plan to use wood alcohol in a spray.

After the meeting we asked Mr. Farner to send us a short article explaining his method. Here it is:

This is the third season that I have used sulfathiazole to clean up American foulbrood without any kick-back. However, I thought there must be a better method in applying it. After reading Mr. Allen Latham's article in the March issue of the American Bee Journal, I hoped that was the answer, especially in the outyards, where the syrup method required six weeks of steady feeding.

Fill an ordinary fly sprayer with wood or any denatured alcohol, for each one half pint of alcohol put in one half of a teaspoon of sodium sulfathiazole. It is very important to mix this solution just before using it. Shake or brush the bees off of the brood combs and spray the mixture lightly on both sides of all of the sealed and unsealed brood. Some wonder why the wood alcohol does not poison the larvae. The reason is that the alcohol evaporates soon after striking the warm brood and leaves a fine residue of sulfa evenly distributed over the brood and diseased larvae. This seems to check the spreading of the disease and allows the young larvae to complete their cycle. Stand the frames on end with the top bar

towards you; this will allow the spray to fall directly on the diseased larvae also, which lie at the bottom of the cells. The dead larvae soon dry up and are easily removed by the bees.

Spraying once or twice, about a week apart, will usually clean up most light cases of foulbrood, while a heavy infection will take the third or possibly fourth spraying. You will be amazed to find how fast the disease disappears. It will also help when there is a heavy infection to feed a thin syrup with sulfa in it at the time you spray the brood. Mix about one third of a teaspoon of sulfa to a ten pound pail of syrup. During the early spring or fall months I feed on top with a ten pound pail, but during the summer, especially if there is a honey flow on, use a Boardman entrance feeder.

If there is any doubt of the bees carrying any disease to the supers or if there is any diseased brood in the supers, the disease will likely show up later. In this case mark all supers and keep them separate. The following season the disease can be worked out of them by putting package bees in them and feeding sulfa syrup or spraying the brood.

Of course, this work should be done when there is no danger of robbing, and all tools, as well as your hands, must be thoroughly washed with strong soap to prevent the infection from spreading further.

While the treatment above is in the experimental stage, we desire to emphasize that the cost of the ingredients is very low, probably not over 1c per colony, that it avoids the danger of robbing, which, under treatment may be the cause of spreading infection. It is important to apply two or more treatments, and the spray must be used just after mixing. Lastly, we urge that none of the sulfathiazole treatments be given without the knowledge and consent of the state bee inspector.

Sweet Clover Conspicuous by its Absence

During a recent automobile trip of around 300 miles through western Ohio, we did not see any fields of sweet clover as we did 10 or 15 years ago. Small patches are found along some highways and in waste land. Some years ago when large fields of sweet clover were grown for seed or left for pasture, beekeepers benefitted. At present soybeans and other crops take the place of sweet clover. Bees get little if any nectar from the soybean even though it is a legume.

Red clover is now being grown to quite an extent in some areas. This is not a major honey plant, although it does yield some nectar under certain conditions. Alfalfa does not appear to be so common in Ohio as it was a few years ago. It does yield some nectar in certain areas of the East and Middle West, especially during dry seasons, but it is not considered a reliable source of nectar as it is in the irrigated regions of the West.

Alsike clover, when grown for seed, is a fairly certain source of nectar. It is, however, a rather finicky plant and yields only when soil and weather conditions are just right. The same is true of Dutch white clover.

What causes the commercial beekeeper to have a sickish feeling is to see a large field of alsike near his bees cut down just as it comes into bloom.

What then is the commercial beekeeper going to do? He must make a fair margin of profit to remain in business and to remain in business his bees must have adequate nectar and pollen to insure a surplus.

We understand from scattered reports that sweet clover is beginning to come back. We hope this is true but in our travels we have seen very little of it. Perhaps we need to do more travelling. We did, however, see some sweet clover in Wisconsin. As this is being written (on board train from Chicago to Madison, Wisconsin, July 23) not one field of sweet clover has been seen thus far on the trip. A considerable amount was seen in the suburbs of Chicago.

As was brought out at the recent Honey and Pollen Plants Committee meeting in Amherst, Mass., July 12, referred to on page 453 of August, 1947, Gleanings, the farmer is not planting crops to please the beekeeper. We could hardly expect him to do so. However, all farming areas do need bees for pollination, whether the farmers realize this or not.

As we see it, the situation boils down to this: Farmers, in order to have honeybees to perform the necessary pollination service, will have to maintain a reasonable amount of reliable honey plants on their farms to make it profitable for beekeepers to operate. Obviously this is a project for both the **Honey and Pollen Plants Committee** and **the Agricultural Relations Committee** of our National Federation to continue working on.

From North, East, West, and South

SOUTHERN CALIFORNIA, Aug. 1

Weather: Southern California is dry and more dry, day after day. Every effort is made to conserve the water supply as streams and reservoirs are all reported low. If we had some of the surplus reported over the eastern part of the United States how happy we would all be.

Honey Crop: A low average is reported over Southern California. Many thousands of colonies have been moved to Central and Northern California. Late reports are that these are gaining a little in weight. Cotton as well as alfalfa is blooming and there is yet a month or six weeks to hope for surplus.

Market: The market is active with good prices offered, with no honey being bought for speculation.

Miscellaneous: Fortunately we have had no very destructive forest fires and every effort is being put forth to prevent fires getting started. We have for many years observed the results obtained from our native honey producing plants as well as that from those sources that might be called man-made. Those nature-made sources are wonderful yielders of nectar when moisture, temperature, and climatic conditions all cooperate. Especially is this true with the sages and wild buckwheat. To alleviate in a measure the short crop years, we have the man-made crops such as orange, alfalfa, and other irrigated crops. It is seldom that we get two crops in succession from the sages. If we get two good crops, two part crops, and one failure each five years, it would be a good average. We sometimes hear of the good old days when some one made a crop of two and sometimes three hundred pounds per colony but we can say that we can see no prospect of any such yields in the future. Cultivation as well as forest fires have so lessened the acreage that at one time made good bee ranges that we cannot hope for such big yields again. And yet we feel that the young man who likes the business and is willing to work as the successful beekeepers have to work will succeed and be happy while doing it.

Sumac yielded well for about two weeks. Bees moved to the thistle are reported as doing well.

Loads of bees taking one night and two days to move are reported to have lost very few bees. These were loaded just at nightfall with only a puff of smoke at the entrance. Scarcely a bee left the hive during the time that the truck was in motion. Soon after daylight the bees were parked on a side road and left until nightfall when they were taken some 200 miles to the new location. While the bees flew quite freely during the day they seemed to find their way back to their own hive and very little drifting was noticed. And so we learn a new trick here and a short cut there helping to keep up with the procession.—L. L. Andrews, Corona, California.

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NORTHERN CALIFORNIA, Aug. 1

Weather: Heavy winds during the first part of the month and now a heat wave. The hot winds stopped colony gains and the present hot days will shorten the flow from most native vegetation. Many favorable days, however, permitted the bees to work and colonies made the most of their opportunities.

Condition of Colonies: Strong colonies are the rule where the populations have not been reduced by arsenicals. Nuclei and weak colonies were rather hard hit by the heat when not provided with shade. Some outside combs on the sunny side of hives melted down, especially in those hives where bees clustered out on the shady side.

Condition of Plants: The yellow star thistle is in full bloom and is yielding surplus in some locations.

The plants are generally shorter and less abundant than in seasons of abundant moisture. Alfalfa seems to be yielding better than usual, especially in seed areas. Cotton in the lower central portion of the state is beginning to bloom and look thrifty.

Crop Prospects: It may be too early to make a safe prediction as to the probable honey crop for California but from where I sit it looks as if California will not go over 20 million pounds and may end up short of 15 million pounds.

The Honey Market: Probably the best description is to say that the honey market is in a state of flux. In looking over prices in some of our larger markets, one finds one pound jars ranging from 42 to 69 cents, and five pound containers from $1.65 to $2.45, with the movement reported as slow.

In a changing market, buyers are bound to be cautious and not load up on more honey than they can reasonably sell within a short space of time. This applies to processors as well as to retailers. With sugar available in any quantity to manufacturers and to the housewife, and with jams, jellies, and other competitors of honey becoming more plentiful at lower prices, the slow movement of honey at this time is to be expected.

Until the situation becomes more stable, it would seem desirable for those who have honey to sell to not force it on an unwilling or sluggish market, especially so when the prospects for even an average crop over the country are none too favorable.

I recently had the pleasure of calling on some of the leading honey buyers in southern California and it is obvious that they were doing their best to find markets for the honey being offered. In some cases they have found old markets through which much of the darker honeys moved are at least temporarily not interested.

I also went through the new packing plant of the Sioux Honey Cooperative at Colton, and there saw one of the most efficient and compact arrangements in California for processing and packing extracted and creamed honey. These different agencies—the wholesale buyer, honey packer, and the cooperative—are aware of the magnitude of the problem of selling honey in an orderly manner. By all working together and with the full cooperation and understanding of producers, the job can be done.

Honey again will have to be sold on its own superior merits and the producer can help by keeping varieties separate and by producing only good, clean, quality honey, regardless of color or natural flavor, and by not forcing the price lower by dumping honey on an unwilling market.—J. E. Eckert, Davis, Calif.

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FLORIDA, July 31

Weather: There has been excessive rainfall in all sections of the state. This has interfered with bee activities to such an extent that it stopped them from working, and in some sections has made it impossible for beekeepers to get to their out-apiaries.

Honey Flows: Florida's honey crop will be away below normal. In no section of the state has there been a normal honey flow. The early flows, ti-ti in west Florida and orange flow in south central Florida, are almost complete failures. The gallberry and saw palmetto flows were very short. Black mangrove along the coast did not yield. The bees in some locations are gathering a little from partridge pea. Our beekeepers are hoping that the bees will gather enough honey from fall flowers to be in condition for the 1948 honey flows.

Condition of Bees: In almost all sections they are in fair condition as far as brood and bees are concerned, but many colonies are short on honey.

Market: Almost all of the honey produced in Florida this year has been sold, but the market is slow. Wholesale prices in bulk are about 20 cents a pound. Some sales report lower prices.

Miscellaneous: Two local beekeepers' associations have been formed recently. The Central Florida Beekeepers' Association, with Philip M. Packard, Oviedo, as president; and the Polk County Beekeepers' Association, with R. C. Allen, Auburndale, as president. The

Board of Managers of the Florida State Beekeepers' Association has announced that the annual meeting of this association will be held on October 13 and 14 at Orlando.

Apiary Inspection Notes: During the past fiscal year ending June 30, 1947, the apiary inspection department made 87,674 colony inspections. American foulbrood was found in 683 colonies. Regardless of the fact that we have been treating American foulbrood infected colonies with sulfathiazole, our percentage of diseased colonies has dropped from 1.33% last year to three fourths of one percent this year. We will continue to use sulfathiazole.—Robt. E. Foster, Apiary Inspector, State Plant Board of Fla.

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KANSAS, August 6

Weather: The central part of Kansas has had the normal amount of rainfall up to this date (August 6). The rainfall for April, May, and June was normal or slightly above normal with the total for June of 3¼ inches above normal. The Missouri Valley area was flooded the first three weeks of June. After this excessive rainfall, the weather suddenly changed to no rainfall and rapidly rising temperatures. From the third week in June until August 6, rainfall at Manhattan, Kansas, has been .64 of an inch. Temperatures during the last two weeks of July and the first week in August have been exceedingly high. Since July 27, the temperatures have ranged from 100°F., or more, except for two days.

The moisture conditions for southeastern Kansas have been much better than usual. Hard rains or timely showers from the middle of June to the latter part of July produced good plant growing conditions.

Plant Conditions: In central and northeastern Kansas plants were adapted to wet weather conditions which occurred during June; consequently, they had a small root system which was not able to withstand the sudden change to hot, dry weather. The honey flow ceased July 15. The white sweet clover plants passed full bloom at a rapid rate. Flower racemes soon dried up and had very little nectar to attract bees. The conditions favorable for plant growth in southeastern Kansas were favorable, and the honey flow was continuing through July 20.

Production: In southeastern Kansas, commercial beekeepers have in the vicinity of 100 to 150 pounds surplus honey per colony, which honey is mostly from white sweet clover. In northeastern Kansas the average surplus production per colony ranges around 40 pounds. In some sections in Doniphan County the honey has an excellent flavor, being a mixture of basswood and white sweet clover. In other parts of northeast Kansas a surplus is primarily of white sweet clover.

The Market at the present time is in an unsettled condition. Beekeepers are hoping for a 25-cent wholesale price, but no buyers are offering that price. Honey, in small retail packages, is priced to sell from 53 cents to 57 cents a pound. It is believed that most beekeepers selling honey in 60-pound containers at retail will ask from 20 to 25 cents a pound at the honey house.

Miscellaneous: It is hoped that a change in weather will occur in a short time and that we will have sufficient moisture to assure a light honey flow from alfalfa in central Kansas.

The latter part of June and early July a webworm outbreak occurred in alfalfa fields, causing considerable damage and forcing farmers to cut the alfalfa when it was not ready for hay. This condition has changed the program of the farmers and many believe they will produce another hay crop in place of a seed crop. This will have a tendency to reduce the possibilities of a seed and honey crop from this plant.

The Kansas State Fair will be held at Hutchinson, Kansas, from September 14 to 19, and the honey exhibit will be on the second floor of the grandstand near the north end. Entries for the Division of Bees and Honey at this Fair close September 6. The premium list may be obtained from Mr. S. M. Mitchell, Secretary, Kansas State Fair, Hutchinson, Kansas. — R. L. Parker, Manhattan, Kansas.

OHIO, August 1

Weather: "All signs fail in wet weather." So do many honey crops when we get an almost summerless summer as we have thus far experienced.

By way of comparison we shall start a portion of the hydrologic year as it performed in Columbus, Ohio, and vicinity. Starting with April there were 19 wet, cold days. Our normal rainfall is 2.87 inches. We got 5.30 inches—almost twice the requirements. The 11 days that it did not rain were not all clear days but many of them were cloudy and cold.

The normal rainfall for May is 3.59 inches and we received 4.94 inches. The first 8 days were all wet and the total number of wet, cloudy days for the entire month were 17, and on the eve of May 29th the temperature was below 50 degrees.

In June our normal rainfall is 3.31 inches and we received 4.14 inches and many gloomy days that prevented the bees from flying.

Jupiter Pluvius for July capped the climax. Instead of the normal 3.55 inches this month covered the earth's surface with approximately 7 inches. This just about washed out our clover honey flow, which is our main flow. In four months central Ohio was plastered with 21.28 inches of water. Did you ever try to catch soft water when it was raining hard? Well, you could have done it here.

Honey Crop: My present knowledge is mostly hearsay. I know that my own crop in central Ohio is positively zero and others in this locality are quite similar. I have been informed that some beekeepers in the northwestern section of the state have been more fortunate by having up to 100 pounds surplus per colony. I do not believe that the summer crop will exceed a 25 pound average over the entire state.

Market: Your guess is as good as mine. However, do not expect as high a price as you received last year.

Nectar and Pollen: I find an excessive amount of pollen stored in the brood chambers. In fact, if I had twice as much surplus honey as there is pollen in the brood chambers I would be going in the direction of a fair crop of honey for this year. Fall aster looks quite promising with the most sturdy growth I have ever seen at this season of the year. Little Dutch white clover is blooming profusely. The new growth of alsike, alfalfa, and some sweet clovers are excellent. We hope for the best in 1948.

Nosema took its toll again this year, more, in fact, than many beekeepers realize. Getting into the bee yards most of this spring and summer with a truck has been a problem. At times we did not know which lake our bee yards were located in. This sounds like a joke but there were times when it really was not funny.

In closing may I suggest that the time has arrived when the beekeepers of Ohio must get together on a state-wide program to improve and advance bee pasture conditions. Should we refrain from doing this we are going to find ourselves with a large investment and little or no income. This situation is now below the danger point in many sections of the state. Suggestions are now in order. What have you to offer? —W. A. Coulter, Columbus, Ohio.

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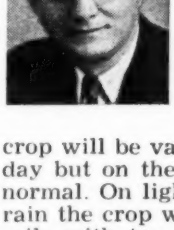
WISCONSIN, August 5



The weather during the past month ranged all the way from cold and wet to hot and dry. There was drouth in northern Wisconsin and too many rainy days in the southern part of the state.

Crop: The honey crop will be variable as we see it today but on the whole will be below normal. On light soils with sufficient rain the crop will be good; on heavy soils with too much rain it will be small and in the drier areas it will be below average.

Summer Meetings: Two excellent summer meetings were held July 24 and 25 at Wausau and Janesville. Attendance was about 150 at each meeting. The pot-luck cafeteria style luncheon is quite popular and

helps make the meetings successful. Out-of-state speakers included Mr. Jack Deyell of Gleanings, Mr. G. H. Cale of American Bee Journal, Prof. V. G. Milum of the University of Illinois. All gave excellent talks and helped our program.

There was considerable discussion about honey prices, without definite conclusion because it was early in the season. Majority at that time seemed to favor retail prices of about $1.50 for 5-pound pail, $2.75 for 10-pound pail, and about $16.00 for a 60-pound can.

New Laws: Two new laws affecting beekeeping have just been passed by our legislature. First, indemnity of $3.00 per colony for all AFB colonies burned by inspectors. The money comes from our occupational bee tax of 10c per colony and the beekeeper must have paid his taxes before being eligible. There was no opposition to this bill.

Second law is a licensing fee for beekeepers extracting honey for sale. Licensing presumes inspection of honey extracting plants. There probably won't be enough inspectors to do this work but at least if the beekeeper is reported as having an unclean extracting plant, his license can be taken away until he cleans up Beekeepers generally favor the law.

Nosema has been our biggest plague this year. It started with package bees, some lots being infected 100% as shown by examination of stomach contents under the microscope. The problem was so serious that resolutions were passed at summer meetings urging southern producers to study the problem and, if possible, provide us with certified bees free from Nosema. Queens superseded two to three weeks after installation in practically all heavily Nosema infected packages. Many of these refused to accept a second queen and did not raise one of their own.

Mr. Robt. Knutson, vice-president of our state association, has examined scrappings from the edges of water holes used by bees and over which infected bees have been flying and found them to contain numerous Nosema spores. It's probably one way of spreading the disease.

There was some dwindling or disappearance of field bees following a cold wet spell in June in heavy soil areas because of Nosema.

Queen failure at a critical time, in late April or May, was another cause of loss in production. We have been successful in requeening about 20% of all colonies, those having old or poor looking queens, in late March. It is easily done at that time without loss of queens.—H. J. Rahmlow, Madison, Wisconsin.

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TEXAS, August 1

Weather: The temperature continued high throughout July, with most areas reporting well over 100. Rainfall generally was deficient. While some areas experienced local showers there was no general rainfall. Much of the State is in the grip of a severe drouth with no rainfall of any consequence in this immediate area since May.

Condition of Bees: With the honey flow over for the summer, in most areas, the bees are fairly inactive and brood rearing greatly reduced. There is little prospect for a flow in the near future.

Honey Crop: Most of the honey crop has been extracted, except in the northern sections. In the southeast section the flow ended with the drouth, but the honey crop appears normal in this area. In southwest Texas the crop was above average with guajillo yielding better than in several years, although mesquite was disappointing. In the central section the crop was smaller than a year ago because of the short crop from sweet clover, although the yield from horsemint and cotton was better than in some years. North and northeast Texas produced a record honey crop. An early flow from vetch was followed by an excellent yield from sweet clover and cotton yielded better than in some years. The acreage of cotton is greater than in some years, with less injury from insect pests, consequently fewer fields were poisoned. More colonies were kept in the cotton area with smaller loss of bees from poisoning than usually. In the western portion the crop was below average, with little yield except from cotton and alfalfa in the irrigated districts. At this time it appears that the honey crop for the State, as a whole, will be nearly as great as in 1946.

Market: There is considerable fluctuation in retail prices. Move-

ment continues slow with a tendency for lower prices. Packers are carrying only a moderate supply, waiting for a more stable market. Producers are not inclined to sell at low figures but are prepared to market their honey on a year-round basis.

Miscellaneous: Texas beekeepers are practicing migration more extensively. Many who operated in the Rio Grande Valley during the citrus flow moved to the vetch and later to sweet clover and cotton in June. At present there is a heavy concentration of apiaries in the northern portion of the State. Local beekeeping associations are becoming more active. On July 27 the San Antonio District Beekeepers' Association held a field meeting at the Apicultural Laboratory. The Texas State Beekeepers' Association announces its meeting at College Station, November 3 and 4.—A. H. Alex, San Antonio, Texas.

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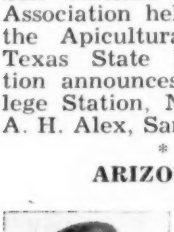
ARIZONA, August 7



Weather: Salt River Valley so far has been left out of the summer rains, having had no rain, except showers, since January.

Honey Crop: Our crops were exceptionally good this year because of good rains last summer and fall. I am afraid for next year unless it rains soon.

The citrus was good and the bees strong throughout the valley. DDT killed all the field bees for four days, then they rallied forth to a good 60 pounds per colony, or better.

The desert then followed the citrus, making 60 pounds per colony and better in some locations, while others did not do so well.

The alfalfa was good in spots, as the water shortage caused the farmers to turn their hay to seed, making good pasture for the bees.

We are now in cotton. The heavy dusting program has put many apiaries out of production for the time being. It is too early to guess the outcome of this crop—we can only hope for the best.—Roy Hastings, Mesa, Arizona.

WESTERN NEW YORK, August 10

Weather: The continuous rainy weather during the spring and early summer caused a shortage of both pollen and nectar in many colonies for some periods, and many colonies were below par when the honey flow was on. Colonies that had plenty of stores built up to great strength and swarming in many cases was bad.

Crop: New York state has experienced another spotted honey crop. Clover yielded well for a few days in some localities. Basswood had one of the heaviest blooms that I can recall ever seeing but weather was so cool during the blooming time that very little honey was secured from it, although the most of the clover honey that I sampled has a little basswood flavor which makes a very delicious honey.

Altogether the New York crop seems to be somewhat larger than last year. Here in western New York we have possibly a 30-pound average, while last year was practically nothing.

Honey Markets: While sales have slacked off markedly since the end of sugar rationing a normal demand exists and we find consumers willing to pay relatively fair prices for honey compared to other foods. Honey, today, is on its own and is not used as a sugar substitute. Cutting of prices to an unreasonable low level is not going to increase overall sales.

The development of cooperatives during the past few years and the more recent organization of the Cooperative Council should provide a very stabilizing influence during this period of uncertain trends in market conditions.

Certainly cooperatives have been organized to promote the producers' interest and provide orderly marketing.

It is disturbing that at least one of the largest and most dominant cooperatives was the first to extract extortion prices during the critical shortage and is now the first to lead the market downward. —Howard M. Myers, Ransomville, N. Y.

MISSISSIPPI, August 5

The weather has been extremely hot and dry over the state for the past two weeks. In the southeastern part of the state, a good beekeeping area, drouthy conditions have existed for four or five weeks. Unless general rains come soon, some bees may be short on stores in the fall.

Crop: The spring was rather favorable, although late. Most bees were weak from a shortage of stores during the winter but built up rapidly when good weather finally arrived. White clover, sweet clover, and vetch yielded well in the vicinity of State College. An average of about 100 pounds per colony was extracted from the college apiary the first week in July, the best colony producing about 240 pounds. Good production was reported from apiaries in the southern and southeastern sections of the state also.

Although there will be no difficulty in selling all honey produced in the state, now that sugar is again available there seems to be some buyer resistance to high retail prices on honey in grocery stores.—Clay Lyle, State College, Miss.

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ONTARIO, August 8

Honey Crop: Another month has passed so quickly that we can hardly realize that a week in August has already gone by. Although the weather during the last half of July was seemingly favorable for nectar secretion, reports received from such sources as the Provincial Apiarist, the Managing Director of the Ontario Honey Producers' Cooperative, and others, confirm the fact that Ontario has again another very short white honey crop.

Mr. T. H. Shields, Managing Director of the Ontario Honey Producers' Cooperative was here a few days ago and said that practically all honey produced in Ontario this year is away above normal in moisture content, with the bulk of samples tested running around 20%. Of course, honey so heavily loaded with moisture is apt to cause trouble later on, especially if not properly looked after in so far as storage is concerned.

Retail demand is exceedingly strong and while we cannot refuse to sell to people, every sale is made with the warning that the purchaser takes all the risk of the honey keeping. Not a very satisfactory way of doing business, we admit. but under the circumstances it is about the best thing we can do. We sell at retail not because we like to do so, but cannot do otherwise. For at least 75 years honey has been sold here to many Toronto people as well as others, as my grandfather operated 200 colonies or more, and in some cases the third generation of customers is now buying honey here every year.

Miscellaneous: In common with many others, our boys have been doing top supering during the last few years. Theoretically at least the bees are supposed to finish up the lower supers and then tackle the one above. But our bees do not by any means always do this. Just recently the boys went to take off honey from an apiary that had an average of two and a half supers per hive. In at least half of these hives the honey was about evenly divided between the two supers and very little sealed. Result—most of this honey is left to go with buckwheat that we hope will soon be coming in.

This apiary was given the second super when the first one was half to two thirds full, but the bees, instead of finishing up this lower super, promptly went up into the last one given them. Of course, if the flow had been heavier it would have been a different story.

Last week our boys visited Mr. Clare Allen of Marlbank, Ont., President of the Ontario Beekeepers' Association. He is getting a big crop and in regard to supering is very much opposed to the top method. He says that with him the bees will always go up to the top super and neglect to finish the lower, so they always lift off the full one and add the empty super underneath.—J. L. Byer, Markham, Ontario.

80 Years Among the Bees

By E. R. Root

"Experience is a good school, but the tuition is high."—Josh Billings.

In our last issue I left A. I. Root at the very pinnacle of his success in beekeeping. After many mistakes, he was able to produce a barrel of honey from a single colony of bees, and 6000 lbs. from 48 colonies. That was the time when the extractor had just come into use. That achievement stirred the entire bee world. Before this was accomplished, A. I. Root had many ups and downs—more downs, if you please, than ups. No one up to that time had cautioned beginners what **not** to do. The lack of knowledge on this subject led him into many mistakes. For the first two or three winters he lost nearly all of his bees. During that period he had many cases of robbing. He was stung unmercifully because a bee smoker was unknown. He did not know that bees would steal from each other and in their frenzy would get all the bees in the yard in an uproar. Resulting complaints from neighbors made his pathway anything but hopeful of success. It was that period of which I am now speaking—when A. I. Root gave out to the bee world more tricks of the trade than he was later able to do. It is only fair, however, to the public and to A. I. Root, to say that every time he met with failure he came out in the bee journals with a list of the mistakes that he had made. I shall attempt to present some of the things a beginner should know when he ventures into the hazards and romances of beekeeping.

A. I. Root got his first swarm of bees and tried to find out why farmers insisted that the keeping of bees was not profitable. He was not satisfied with their answers so he read all the papers he could find and finally purchased a copy of Langstroth's first edition of his book, "The Hive and the Honeybee".

The small colonies had died because they did not have sufficient stores to carry them through the winter or because there were not enough bees to resist the cold. When they were given warmer quarters, little or no means were provided to take care of the excess moisture in the hive. This is now known to be the main cause of failure. It was apparent that the bees should be put into warmer hives with double walls, and this idea was generally adopted as correct. It did save some brood and helped the problem of wintering but did not provide for the escape of moisture, with the result that the packing became wet and frozen. Now we provide upper entrances so that the moisture can pass out at the very top, or we enlarge the bottom entrance, or we employ both.

One of A. I.'s first mistakes was that of putting his son, the writer, to hoeing grass and weeds in front of the entrances of his few hives. Nothing can exasperate bees more than the striking of a hoe in front of their very noses. The result was that they stung my ankles and hands until I dropped the hoe and ran for the bushes. I was thoroughly convinced that when I grew up I would have nothing to do with bees.

Mr. Cary W. Hartman who visited father at the time told him, "Show the boy how to open a hive at the top, using a slow motion". That turned me back to bees.

Perhaps the greatest mistake A. I. Root made in his early career, except that of wintering, was at a time when the bees got ahead of him. He was a manufacturing jeweler and was busy at his store. He had only his wife and his ten year old son to help him with the bees. So he thought he would not take time to remove the combs until the honey was capped over and accordingly he extracted it when it was not entirely ripe. He put it into bottles with the hope and idea that age would improve the quality and make it acceptable to his customers. In this he made an awful mistake. The honey fermented, pushed the corks out of the bottles, ran over the shelves, resulting in general complaint. A. I. Root later made this good. He had hoped to develop an evaporator so he could remove the moisture from the honey and bring such honey down to the specific gravity of the natural honey

from bees. He did not know that artificial ripening would not put into the honey mineral matter and the vitamins so necessary to the flavor and general quality of the honey. That experience cost A. I. Root dearly. He subsequently tried evaporators of various types, such as those used by sugar makers in evaporating maple sap. But this procedure did not make good honey. So for years to come he stressed the importance of strong colonies, both for winter and for the production of honey, but he did not get quite to the point to where he allowed the queen to have room enough so she could occupy two stories, as explained in our last issue.

In the early days when ordinary Coffee A sugar was scarce and high priced, A. I. Root thought he would try what was then called grape sugar but what we now know as dextrose. This is a sugar made from grapes and corn and therefore it is called "corn sugar". He bought a barrel or two of this, ground it up into small parts, and then gave it to bees after mixing it into a thin syrup. He placed this in feeding cans outdoors where the bees could come from all of the hives, help themselves and carry it in. They did this. A. I. was highly elated that we could give them a cheap form of grape sugar and take away high priced honey, then selling at a much higher price. But experience showed that this grape sugar hardened in the comb and became practically useless and was unfit for a winter food, with the result that he abandoned the whole proposition, concluding there was nothing better when bees had to be fed than Coffee A sugar which is equivalent to our granulated white sugar.

In the next issue we will present to the bee world some of A. I.'s other mistakes—some of which proved disastrous in their final results. As in civil life, so in the bee world, we often learn more from the hard knocks of experience than from the easy way when all our efforts are crowned with success.

The Wild Carrot, or Queen Anne's Lace, is a troublesome weed in many sections, covering hillsides and fields so thickly no room for other plants can be found. This is a Pennsylvania hillside.—Paul Hadley, 1506 S. 2nd. St., Philadelphia 47, Pa.

Siftings

"It is not the man who says the most who has the most to say;
It is not the man who says the most who gives the most away."
—Confucius. (Taken from October, 1943, issue of British Bee Journal.)

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"Let the bees tell you but do not mistranslate their message because of preconceived notions."—Scottish Bee Journal, December, 1946.

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"Change all failing and slow queens promptly and breed from the best you can secure—thus raising the standard of your stock step by step, and improving the average year by year."—Pratt, in his book on queen rearing.

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"Quinby offers a six frame hive complete for $1.75. Send for his new circular." — February, 1875, Gleanings in Bee Culture.

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"As regards laying workers, we have strains of honeybees here which lay eggs which will give rise to other workers, drones, and queens. The worker bees treat these laying workers as if they were queens. That is to say, you can pick out the laying workers on the combs by the attention which they receive from the non-laying workers." — A. E. Lundie, Chief Div. of Entomology, Pretoria, South Africa.

* * * * *

"In handling queens many beekeepers have observed that once in a while a queen suddenly becomes unconscious and sometimes dies. The reason assigned is that she took a cramp or had a cataleptic fit."—Jay Smith in his book "Queen Rearing Simplified".

* * * * *

George S. Demuth's method of requeening without dequeening was to give a ripe queen cell to a food chamber, set off on a separate stand, during the honey flow. This was done at the time when the honey supers took the place of the food chamber, and when the latter contained a little brood. After the close of the honey season the food chamber, now containing a young fertile queen, was placed back on the parent colony over a queen excluder and a sheet of newspaper. In most cases bees would dispose of the old queen below and retain the young queen above. The excluder was then removed.

* * * * *

"Experience is a dead loss if you can't sell it for more than it cost you."—Bank Notes.

* * * * *

"The reason for so much supersedure in packages is that the queens are too often reared out of season. Queens must be reared under the swarming impulse from non-swarming stock." — Charles Kruse, from September 1939 A. B. J.

* * * * *

Things heard at Bee Meetings:—
1. To find a queen smoke from entrance at each side of brood chamber, count 30, then look under the queen excluder.
2. After introducing queens look at the entrances of hives each morning for dead queens.

* * * * *

Methyl Bromide.—This chemical is recommended for treating moth-infested combs because it will destroy the egg if the combs being fumigated are placed in an airtight chamber. The fumigator should wear a gas mask for protection.—Anonymous.

* * * * *

"The man who waits to be given a chance will have a life's job as a waiter."—Anonymous.

* * * * *

"The practice of clipping the queen's wings was recommended by Virgil some 2000 years ago as a preventive of swarming."—Arthur M. Sturges in "Practical Beekeeping."

* * * * *

"The incompetent and too meddlesome beekeeper is his bee's worst enemy".—"Bee World" Dec. 1945.

* * * * *

Wax moth larvae in masses may survive a below zero temperature. Freezing temperatures will kill eggs and individual larvae as well as adult moths.

Price of Honey

So many readers have shown interest in the price of honey, we have attempted to get an expression of current prices from beekeepers over the country. These reports are based on several reports for each state averaged with all of the reports in the region. Where insufficient reports are returned, prices have been omitted from the chart. More reporters seem to be able to gauge the retail market price than the wholesale price, and for this reason some inconsistencies are evident in the mark-up between the wholesale price to grocers and the retail price. No doubt as the months progress and more of the crop comes on the market, these prices will become better established.

Monthly Honey Report (Prices expressed in cents per pound)

	North East	South East	North Central	South Central	Mid West	North West	South West
Bulk Honey							
Table Grade	20-22c	25c	20-25c	25c	20-25c	17-20c	16-20c
Industrial Grade	16-18	20	15-21				14-17
Price to Grocers							
5 lb. jar or can	28-36	28-33	27-32	28	24-34	25-27	25
3 lb. jar	29-41	29-33					25-31
2 lb. jar	31-47				27-41		
1 lb. jar	32-52	30-35		37	29-43		35
Comb Honey (24's)	8.88-11.00		9.00-12.00	7.50			9.12
Retail Price							
60 lb. can	25-35		25-30	32	22-27	22-26	20-25
5 lb. jar or can	35-45	33-40	30-40	35-40	30-45	29-33	33-45
3 lb. jar	37-48	33-45	39-50	35-40	33-42		
2 lb. jar	40-55		40-50	43	38-53		33-49
1 lb. jar	40-55	37-50	40-50	35-40	35-55	47	35-50
Honey Sales	**Fair**	**Fair**	**Fair**	**Slow**	**Slow**	**Fair**	**Slow**
Estimated Crop							
Conditions based on normal (%)	75	40	40		75	75	75

JUST NEWS

(Continued from page 541)

Mobile, Ala., and New Orleans, La., on U. S. 90, which is known as the Old Spanish Trail. It is only a little over an hour's drive to either of these interesting old cities. Biloxi was settled in 1699 under the flag of France and since has been under six other flags.

Here you will find majestic centuries-old trees draped with Spanish moss; interesting and various types of architecture of bygone days, some built and fastened together entirely with wooden pegs, alongside new modern buildings.

The native people are friendly and many have accents, the source of which has long been forgotten.

The Gulf Coast is the garden spot of the South and Biloxi is the center of the recreational activities of the Gulf Coast which is fast becoming the playground of the Nation.

The main industry of Biloxi is fishing. More than 500 boats and 5000 people are employed in the picturesque shrimp and oyster industry. This season will be in full swing during convention time. Also, local people and sportsmen usually do more fishing this time of year because many fish have followed the shrimp into shallow waters after summer heat has gone. You can drive up empty handed and get bait and tackle for a few cents to fish off piers or banks or to catch crabs. You can hire good power boats to get out into the deep Gulf or go in a party for deep-sea fishing.

Every beekeeper from everywhere is invited to attend. A very interesting program has been arranged. The speakers are topmost authorities on the subjects they will discuss. If you are planning on attending you are asked to make reservations early and direct to Hotel Buena Vista, Biloxi, Miss. Rates are from $3.50 up, European plan, and according to interest shown a large crowd will be on hand.—Wm. W. Wicht, 1st Vice-Pres., Southern State Beekeepers' Federation.

* * * * *

The South Eastern Honey Show will be held in Atlanta, Georgia, on October 2 and 3. C. J. Hudson, Jr., of H. G. Hastings Co., will be in charge. An unusually fine display of honeys will be shown. Our industry needs more honey shows.

* * * * *

Echoes from Clemson, South Carolina, and Springfield, Ohio, meetings:

Over 90 South Carolina beekeepers from over the state enjoyed one of the

(Continued on page 572)

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate:—12c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Mich.

BEST GRADE HONEY FOR SALE—in large quantities, 25c lb. in your containers. E. R. Raley, Box 1610, Daytona Beach, Fla.

WHITE and amber honey for sale in 660 lb. drums, 60 lb. tins, and in glass jars. Alexander Co., 819 Reynolds, Toledo, Ohio.

FANCY ORANGE OR SAGE HONEY. Any size pack. Write your wants. TONTZ HONEY FARMS, ELSINORE, CALIF.

100 BARRELS EBY'S TUPELO HONEY; packed in steel drums; from our apiaries in the heart of the white tupelo belt in Florida. Write us for our special pack for diabetic demand, for food and drug store trade. Hyland Apiaries, West Elkton, Ohio.

FOR SALE—Light amber honey in 60 lb. tins, 25c per lb.; sample 10c. Joseph Fekel, Vineland, N. J.

FOR SALE—New white clover comb, fancy, $10.00 case of 24 sections. Guaranteed to arrive in good condition by freight. Clarence Engle, Kearneysville, W. Va.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED — White and amber honey, any amount. D. F. Treap, 316 Keenan Ave., Cuyahoga Falls, Ohio.

HONEY & BEESWAX — Highest prices paid. Mail samples. Advise quantity. BRYANT & SAWYER, LOS ANGELES, CALIFORNIA.

WANTED—EXTRACTED HONEY—Clover or Light Amber. C. H. Denny, 483 Moody St., Akron, Ohio.

CASH FOR YOUR HONEY—Extracted or comb. Regular trade, send sample. 60-lb. cans furnished, if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles, Calif.

HONEY in 60's, light clover preferred. J. Jones, 115 W. 82nd St., New York 24, N. Y.

HONEY WANTED—All grades. Carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Co., Inc, 265-267 Greenwich St., New York 7, New York.

ALL GRADES of white and amber honey wanted. Carloads or less. Mail sample and price. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

WANTED—Clover extracted and comb honey. Any quantity. State price in first letter. C. Jankowski, Prairie View, Ills.

COMB HONEY WANTED—Advise quantity and size section. F. H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

HONEY—White clover chunk comb and section, any quantity. Quote prices. Lose Bros., 206 E. Jefferson St., Louisville, Ky.

FOR SALE

BEST BEE HUNTING OUTFIT. Grover, Bristol, Vermont.

QUEENBEE PAINTING OUTFIT, $1.00; colony records, 10-15c postpaid. Southwick Apiaries, Waban, Mass.

HONEY LABELS — Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples and prices. C. W. AEPPLER COMPANY, OCONOMOWOC, WIS.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

We carry a complete stock of bee supplies and honey containers. Write for our price list. Prairie View Honey Company, 12303 12th St., Detroit 6, Mich.

SIMPLEX TRAP clips queens without handling. $1.75 postpaid. INSTANT FRAME spacers seven-eight-nine, fast—accurate. $1.50 postpaid. Free circulars. George Leys, 48 Drake Ave., New Rochelle, N. Y.

WRITE FOR LOW CASH price glass jars and 5 lb. tin pails. Complete stock. Prompt shipment. Roscoe F. Wixson, Dundee, N. Y.

FOR SALE—10-frame deep supers with nice drawn extracting combs. Guaranteed no disease. $5.00 each. Irvin Van Devier, Medina, Ohio.

FOR SALE — High quality medium brood foundation at 80c per pound. Fred Peterson, Alden, Iowa.

FOR SALE—Five gallon honey cans with or without cartons used once. Carload lots or less, 10c each; can and carton, 20c. FOB Milwaukee. C. G. Hendricks, 3522 W. Linden Pl., Milwaukee 8, Wis.

QUEEN EXCLUDERS, 60c, eights and tens. Gulden, Englevale, N. Dak.

FOR SALE—Package bee business in the South. Immediate possession. Box 810, Gleanings, Medina, Ohio.

Pure Northern maple syrup in 5 gallon or 1 gallon containers at $4.85 a gallon. The Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

FOR SALE—Standard 8 and 10 frame bee hives. Number 1's, 92½c each. Hoffman frames, $7.00 per 100. Four cleat covers, 70c each. Bottom boards, 70c each. KD and FOB factory. Write for catalog. Satisfaction guaranteed. HAGEN-LUNCEFORD MFG. & SUPPLY, 2500 NORTH FOURTH STREET, COEUR D' ALENE, IDAHO.

FOR SALE—VOHO Entrance Closures! They save you valuable time, your bees, and your equipment. VOHO Entrance Closures securely screen an entrance in less than 3 seconds. VOHO Entrance Closures automatically lock into position when placed in the entrances. There are 12 distinct occasions when VOHO Entrance Closures will facilitate your beekeeping operations. VOHO Entrance Closures allow maximum ventilation with the least disturbance to the bees. Write for quantity prices and facts about these amazing new aids to beekeeping. Priced to sell—Upper, $0.80—Lower, $1.30. Satisfaction guaranteed. VOHO PRODUCTS, R. F. D. 2, Ogdensburg, New York.

1928 to 1946 volumes American and Gleanings, $1.00 each. Gulden, Englevale, N. Dak.

Complete 1000 8-frame bee business with plenty good equipment, package honey market, shop, extractors, two homes, good locations, etc. Earnest Galloway, Bancroft, Idaho.

50 new shallow ten-frame supers nailed and painted, 60 cents each; 15 new ten-frame hives with frames complete nailed and painted, $5.00 each. C. Klabuhn & Sons, Conneaut, Ohio.

FOR SALE—10-inch hexagon foundation mill for Hoffman brood frames. These rolls turn out new work. W. F. Morris, 1516 Woodland St., Nashville 6, Tenn.

FOR SALE — ¾-inch honey pump, $12.50. Frank Kearns, Austin, Minn.

FOR SALE—2 lb. round honey jars, packed 12 to carton, with caps, 42c per carton, or $5.00 gross, FOB Summerfield, Fla., Route 1. J. W. Reitz & Bros.

FOR SALE—Bee Supplies, used and unused. Eight-frame power extractor, variable speeds. Queen rearing outfit, never used, etc. W. D. Ames, Erie Phone 24833, 1102 W. 26 St., Erie, Pa.

ATTRACTIVE HONEY LABELS, gummed and postpaid. Your own wording. 1000, now $2.50. New handy pocket pencil sharpeners, guaranteed, 40c; 3, $1.10. Brooks, B120G, Arkansaw, Wis.

WAX MOTH CONTROL

Protect your extracting combs with paradichlorobenzine. Non-poisonous—100% efficient. Send postal for circular and prices. TRITOX CHEMICAL COMPANY, WASHINGTON, INDIANA.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements, but we cannot be held responsible in case disease appears among bees sold. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

HONEY WANTED

Mail your offerings and samples to us. Prompt cash on receipt of Honey.

Jewett & Sherman Company

Lisbon Rd. & Evins Ave.
Cleveland 4, Ohio
1204 W. 12th St., Kansas City 7, Mo.

HONEY WANTED

For Export and Domestic
All Grades - Any Quantity

Foreign Commodities Corp.

100 Hudson Street
New York 13, N. Y.

Comb Honey Wanted

Advise quantity you have—size section and how packed.

Frank H. Hauck

P. O. Box 84, Kew Gardens, N. Y.
Bank reference furnished on request.

Honey Containers

1 lb. jars, carton of 24	$0.90
2 lb. jars, carton of 12	0.55
5 lb. jars, carton of 6	0.50

Clifford H. Denny

483 Moody St., Akron 5, Ohio

HONEY LABELS

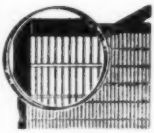
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

Protect your future. Buy your extra Savings Bonds now.

THE ONLY WORTHWHILE
QUEEN EXCLUDER
on the market



Chrysler's All Steel Electric Welded Queen Excluder allows maximum bee passage, better ventilation, more honey production. No wood, no sharp edges to injure bees, no burr combs. New rust proofing process. So durably made and accurately spaced that it is permanently Queen excluding and will last a lifetime. Sales increasing steadily each year. For earliest delivery place your order at once. Send for circular E-2.

W. A. CHRYSLER & SON
Chatham - Ontario - Canada

Now booking orders for 1948
Leather Colored Ialian Queens
and Package Bees
Write for Price
LYNN WILLIAMS
Rt. 3 Oroville, Calif.

Northern Bred Leather Colored
ITALIAN QUEENS
$1.00 Each
Queens clipped or airmailed at no extra cost. All queens mailed in our adjustable introducing cage.
Diemer Bee Co.
Rt. 2, Box 7, Liberty, Mo.

Queens of the Golden West
Buy Western-bred queens and package bees for best results. We are now booking orders for spring 1948.
CLIFTON APIARIES
Oroville, Box 684, California

SCIENTIFIC BEEKEEPING
New REVOLUTIONARY METHOD
Send for Valuable Free Bulletin
THE BEEMASTER
EARTHMASTER PUBLICATIONS
DEPT. 5, BOX 547 · ROSCOE · CALIFORNIA

CAUCASIAN QUEENS to fill your hives with gentle high producing bees. Howard Crom, Ripon, Calif.

GOOD ITALIAN QUEENS, $1.00 each. D. W. HOWELL, Shellman, Georgia.

IMPROVED ITALIAN QUEENS—$1.00. From a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Jr., Caldwell, Texas.

MILLER & EVANS — Booking package bees for spring delivery. Write. Caucasians. Miller & Evans, Three Rivers, Texas.

ITALIAN QUEENS—$1.10, any number. Satisfaction assured. Shipped by airmail for better service. Lange Apiaries, Llano, Texas.

NORTHERN BRED QUEENS — Hardy honey producing Italians, $1.00 each. Shirl Baker, Rodney, Michigan.

BREWER'S LINE - BRED CAUCASIAN QUEENS — Queens for immediate shipment, any number, $1.25 each. We ship by Air Mail. No package bees. PLEASE NOTE NEW ADDRESS. Brewer Bros. Apiaries, 3616 Caucasian Circle, Tampa 6, Florida.

REPLACE those old queens with young Italian queens this fall. Queens $.90 each by Air Mail. Walter D. Leverette, Box 364, Fort Pierce, Florida.

SELECTED hardy Italian queens from heavy honey producing stock. Northern bred, northern raised. Each, $1.25. Baker's Apiaries, Glencoe, Illinois.

FALL QUEENS — ITALIAN — I have some choice queens reared during the late summer honey flow. Prices: 1-24, $1.10; 25-99, $1.00; 100 up, $.90. Eugene D. Cutts, Citronelle, Ala.

THREE-BANDED ITALIAN queens, untested, $1.10 each up to 25; over 25, $1.00 each. Alamance Bee Company, Graham, N. C.

GOLDEN ITALIAN QUEENS, untested, $1.25, each, any number. Carolina Lee Farm, Graham, N. C.

PACKAGE BEES AND QUEENS. Three band Italians. 26 years' experience. Circular free. Crenshaw County Apiaries, Rutledge, Ala.

CAUCASIANS—June delivery. Limited number package bees. 2 lb. pkg. bees, $5.00; 3 lb. pkg., $6.00. Untested Queens, $1.25 each. Lewis & Tillery Bee Company, Greenville, Alabama.

NOW AVAILABLE, G. B. Lewis wooden ware. Dadant's famous crimp-wired brood foundation and thin surplus. Place your order now for next season and be assured of getting your supplies on time. Italian queens and package bees. Prices on request. Dotson's Apiaries, 3059 W. Roxboro Rd., NE, Atlanta, Ga.

GOOD QUEENS FOR FALL REQUEENING. Young, pure three-banded Italian stock that has made outstanding records for honey production in areas where large crops are made. You will like these queens and you probably can not buy better stock. They are reared to give you service. Through the years our queens have been doing just that. For good wintering and the maximum honey crop next year requeen every colony whose queen will be more than 18 months old by next July. Prompt shipment. $1.10 each; 25 to 99, $1.00 each; 100 or more, 90c each. H. C. Short, Fitzpatrick, Ala.

YOUNG vigorous Italian queens, certified, $1.00. Rev. William I. Gray, Prospect, Pa.

FOR SALE—110 colonies of Italian bees in standard dovetailed hives in A1 condition, with inspector's guarantee. Other supplies, namely: One Root 45-frame extractor, one 20-frame extractor, one Merry-Go-Round, one Brand capping melter, 300 lbs. Root's comb foundation, 7 sheets per lb, one good steam boiler, one 1500 lb. capacity Root honey tank, one honey pump. Good outfit for a beginner. L. S. Griggs, 711 Avon St., Flint 3, Mich.

FOR SALE—14 colonies Italian bees. 2-story, second story heavy with honey, $20 each. Never had foulbrood. N. Y. State permit to sell. Also quantity new and used 10-frame equipment. 50 new shallow supers, no foundation. About 50 bodies shallow and standard drawn combs, bottoms, covers, etc. Priced according to condition. B. W. Lacey, Star Route, New Russia, N. Y.

FOR SALE—50 colonies Italian bees in double hives. 100 full depth supers. Everything, bees and combs, first class condition. State inspected. H. Ehmler, Hoosick Falls, N. Y.

FOR SALE: New furnished five room Parkside Home. Sixty one hives bees; extra equipment for many more. Good crop honey now in hives. Near Milwaukee. Wonderful transportation. Write c/o Gleanings, Box 304, Medina, Ohio.

FOR SALE — 140 two-story 10-frame colonies bees, each complete with 3 standard depth supers and queen excluder; these bees are in four locations between Leipsic and McComb, Ohio, and may be left on locations if desired. Inspection certificate furnished. Ray C. Hiltner, North Creek, Ohio.

FOR SALE—28 colonies bees, two story ten-frame. State inspected. $150.00 worth supplies. All for $450.00. Clyde Myers, Dillsboro, Ind.

FOR SALE—60 colonies of bees. Certificate furnished. Also used Root Buckeye Extractor. Plenty of extra equipment. Mrs. F. H. Anson, 35 Maple Avenue, Sodus, N. Y.

FOR SALE—130 colonies of bees, 6 supers deep. This season's crop of honey if taken right away. Also all of my extracting equipment. Will sell to highest bidder. Bees guaranteed free from disease. Claud Lane, La Fontaine, Ind.

50 hives bees, 10-frame 4-story, 1947 queens, 1947 honey crop, honey tanks, small extractor, $2500.00 buys all. Bees will be inspected when sold. R. R. Berg, Lockridge, Iowa.

REDUCING MY COUNT—increasing my movability. For sale, good hives of bees with two shallows in Florida, $16 until December 1. No locations furnished. Lots of 100. WANTED—To arrange with those who kill their bees for package shipment to me this fall. Have bees inspected early. Read Florida regulations. Write to arrange terms and instructions. In Florida after September 1. Paul D. Thompson, 127 Ave. A, N. E., Winter Haven, Fla.

SEEDS

ANISE HYSSOP, wonder honey plant, blooms from June until frost. New crop seed, per ounce (20,000 seeds $2.00, postpaid. Send for our circular describing 40 good honey plants. Pellett Gardens, Atlantic, Iowa.

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers—10% to 40% ahead of the average Italians. Foundation stock from the mountainous region of Terek, Causasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers.

PRICES: Untested queens .... $1.00 each
Tested queens ..... 1.75 each

Queens by Airmail, 4c extra per queen

Albert G. Hann, Glen Gardner, N. J.

Three Banded Italian Queens

After June 1st

1 to 11, $1.00 each

12 to 49, .95 each

50 or more, .90 each

Because of the extremely late Spring, we cannot accept any more orders for package bees.

John C. Hogg
Apiarist
Tifton, Georgia

Queens for Requeening

If you are looking for quality in bees, then it's our well known Mott strain you want. They are honey producers, gentle, less inclined to swarm.

Prices Queens

1 to 24, $1.10; 25 to 99, $1.00; 100-up, 90c.

Taylor Apiaries

Box 249 Luverne, Ala.

Bees and Queens

Italians - Caucasians and
Daughters of Queens
Bred for Resistance
Over 30 Years a Shipper
Send for FREE Circulars

BLUE BONNET APIARIES

Weslaco, R 2, Box 23, Texas

ITALIAN QUEENS

Hardy, vigorous, prolific.

$1.00 each.

B. J. Bordelon Apiaries

Moreauville, La.

QUEENS

For All Your Requeening Needs
Selected Italians

$1.00

The Puett Co.

Hahira, Georgia

MORRISON'S
Leather Colored Queens

Northern Bred — They Satisfy

Mr. Olfred Zelger, Union Grove, Wis., writes, Aug. 12, 1946:
"Please send me 2 queens. I bought one of you last year and she hit the record this year, producing 3 standard bodies and 2 shallows full of honey. She is outstanding in every way—my best queen in 15 years of beekeeping".

Price, $1.25 each

West Branch Apiaries
Grover Hill, Ohio

THE JOHN M. DAVIS STRAIN
ITALIAN QUEENS
BRED THE DAVIS WAY
Guaranteed to please

Untested	**$1.25 each**
Tested	**2.00 each**
After June 30th,	**1.00 each**

Untested only
Cash with order

Little's Apiaries
P. O. Box 122
Shelbyville, Tennessee
Where Quality Reigns

Requeening and Increasing
Use young laying queens
Italian 3-Banded Leather Colored Bees
Prices till October 31:

$1.00	**Untested, each**	**$1.00**
$1.50	**Tested, each**	**$1.50**

Postpaid, Air Mail, with health certificate and directions. Prompt service. We satisfy.

Gooch Apiaries
Farmersville, Texas

WANTED TO BUY

WANTED — 100 to 200 colonies bees, within hauling distance, in November. Longnecker, Elvins, Missouri.

75 to 100 colonies of bees in FLORIDA, in one lot or several smaller lots. Also some regular shallow extracting supers with combs. Bees and equipment in good condition, reasonably priced. Address: 947 Gleanings, Medina, Ohio.

SUPPLIES

Here's what you have been waiting for. THE NO. 10 ELECTRIC UNCAPPING KNIFE. The best knife on the market. Uses either A.C. or D.C. 110-volt current. Blade 10 in. long, 2⅛ in. wide, ⅛ in. thick. High carbon knife steel. High and low heat. Faster than most steam knives. Order two, have a spare. Satisfaction guaranteed. Price, $12.00 f.o.b. Minneapolis. HONEY SALES COMPANY, 1806-08 North Washington Ave., Minneapolis 11, Minn.

ATTENTION N. W. BEEKEEPERS
HONEY CONTAINERS will again be difficult to obtain this year. We have 1-lb., 2-lb., and 5-lb. glass jars, and 5-lb., 10-lb., and 60-lb. tin pails in stock. Be wise, order at least part of your container requirements now. You'll be glad you did. Send for price list. HONEY SALES COMPANY, 1806-08 North Washington Ave., Minneapolis 11, Minn.

MAGAZINES

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including a subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy against 25 cents (or 1s 6d.) postage stamp. Yearly, 7s, 6d, ($1.50) International Money Order. Apply Bhupen Apiaries, (Himalayas) Ramgarrh, Dist Naini Tal. U. P. India

WESTERN CANADA BEEKEEPER—official organ of the Manitoba Beekeepers' Association. One year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $2.25. Wallingford Building, Winnipeg, Canada.

Read the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, E. E. A. Leach, Box 57, East Rand P. O., Transvaal, South Africa.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription, $1.50. Hotel Cactus, San Angelo, Texas.

HELP WANTED

OPPORTUNITY for young man, preferably married, willing to work hard, to learn beekeeping as helper. Prevailing wages with chance to operate on mutually satisfactory terms when ability is demonstrated. Applicants please give experience, references, personal qualifications. Roger Lane, Trumansburg, N. Y.

Above photo shows part of our queen yards containing over 10,000 nuclei

Italian Bees with Young Queens

PRICES:

	1 to 9	10 to 49	50 to 99	100 and up
2 lb. pkg. with queen (each)	$4.50	$4.25	$4.15	$4.00
3 lb. pkg. with queen (each)	5.65	5.40	5.30	5.15
4 lb. pkg. with queen (each)	6.80	6.55	6.45	6.30

Queens (each) $1.35 Tested $2.00

Overbey Apiaries, Bunkie, La.

WANTED — Experienced queen yard man. Year around employment in yards and shop. We can furnish a good modern home to live in. Give full information, age, experience, and salary expected in first letter. H. C. Short, Fitzpatrick, Ala.

WANTED — Experienced queen and package bee men for our apiaries. Only honest reliable men considered, no boozers. Give full information, age, experience, reference, and salary expected in first letter. Good opportunity for right parties. YORK BEE COMPANY, JESUP, GEORGIA.

DEPENDABLE QUEEN BREEDER who can produce Carniolan queen bees, for 1948 season. EPHARDT HONEY FARMS, PLAUCHEVILLE, LOUISIANA.

WANTED—Strong reliable young man to help with our 23 apiaries this fall, and possibly in 1948. State age, height, and weight. Ray C. Wilcox, Odessa, N. Y.

WANTED—Manager to operate package bee business in the South. Box 800, Gleanings, Medina, Ohio.

EXPERIENCED MAN, married or single, year round work. Must be honest and industrious, no tobacco user or drinker. State age, height, weight. Prefer to pay wage and percentage of crop. References exchanged. T. J. Rowe, Arlee, Montana.

HANDY HEAD NET
Complete with Cloth Hat

Elastic head band rests comfortably on the upper part of head. Can also be placed over helmet. Elastic bottom with loop attaches on vest pocket. Veil reinforced to keep away from face. Made from fine olive drab marquisette.

THE BLUMENFELD COMPANY
P. O. Box 230, Palatka, Florida

Modern Beekeeping

The picture magazine of beekeeping. We show you with pictures how to do the job easier, quicker, and better. Special inventor's page. One year, $1.00. Free sample copy.

Modern Beekeeping
Paducah, Kentucky

POSITION WANTED

WANTED—Position with southern beekeeper or queen breeder for winter months by experienced commercial beekeeper. Wife experienced stenographer. References. Box 61, Gleanings, Medina, Ohio.

LIVE AND LEARN

(Continued from page 530)

need a lot of honey. Don't take away too much. Make it one of your first rules never to take honey from the brood chamber.

I know what a temptation it is, because I have gone through all that myself. You want to brag about how much honey you took from your first colonies. You hear about these three hundred pound yields. If others can do it, so can you. You think it a mark of inefficiency if your bees don't do likewise. It's all bunk. I don't remember the figures, but I'll make a little bet that the over-all per hive average for the entire country this year won't go much over thirty five pounds per colony. And that figure includes the wonderful multi-hundred pound colonies. One of those three hundred pound producers is matched by nine colonies that didn't make a pound.

My lifetime high score is a hundred and fifty pounds from one colony by the scale. The year I got that yield from one colony my total was 540 pounds from nine colonies. The eight that produced the balance ranged from 10 to 90, an average of 49. And I guess that my lifetime average since I started to keep bees would not be much more than 30 pounds.

Honey Producers: Have You

Considered what the future holds in honey markets?

Are you prepared to meet the conditions which can and will develop? **The best** you can do for your industry and for yourself is to market through an organization whose **entire interests are yours.**

Before you sell your honey, drop us a line — **IT COULD BE TO YOUR ADVANTAGE.**

The Ohio Apiaries Coop. Assn., Inc.
Route 3 London, Ohio

OBSERVATIONS OF UNUSUAL CONDITIONS

(Continued from page 529)

sudden change in the weather combined with a heavy flow caused some of the heaviest and latest fall swarming I ever saw. I had one large swarm of Italians on September 26. Almost empty supers and hive bodies were filled in an unbelievably short time and it was almost impossible to get supers on before they were actually needed.

I removed 2650 pounds of surplus honey from my 35 colonies, and left one full shallow super on each colony. Most brood chambers contained more than the average amount of honey. This was an average of over 100 pounds each in less than six weeks from colonies that were down to their last pound. My best colony produced 265 pounds of extracted honey and the best one run for comb honey 150 pounds.

I now think we should spend less time worrying about that big crop and more time preparing to take care of it. With all of our so-called knowledge of bee behavior couldn't we still learn a lesson from the bees? What do you think?

Better Bred Queens 3-Banded Italians

Plenty good queens from our famous Better Bred strain that have proven their merit for years. If you were not fortunate enough to get your packages this spring, replace all old and failing queens and watch them build up fast.

Queens, any quantity, 80c each. Prompt delivery.

Calvert Apiaries, Calvert, Alabama

Sunkist Italian Queens

Why tolerate a failing queen or one that will fail before next season? It takes bees—plenty—to gather a surplus. You do not want a queen that takes all season to build up.

We offer you young mated, sturdy queens—health certificate—live delivery. Queens clipped—Air mail postpaid. Prices after July 1, until further notice:

1-25	85c	25-up	80c

Sunkist Bee Company, Convent, La.

Glass Containers

1 lb. jars, 24 in etn.	$0.70
2 lb. jars, 12 in ctn.	.44
5 lb. jars, 6 in ctn.	.43
8 oz. jars, 24 in ctn.	.59
14 oz. Special tall olive type jars, 24 in ctn.,	.85

All our glass containers are clear, include **white** caps, and are packed in cartons that conform to the new government regulations for cartons that are to be reshipped.

If your order for glass totals $50 you may deduct 5%; if it amounts to $100 or more, you may deduct 10% from the above prices.

All prices are f. o. b. Columbia, S. C. and are subject to change without notice.

• • • • •

Wooden Goods Special

The prices listed below are good only as long as our present stock lasts. This is our regular line of high quality equipment, and we are able to offer these extra low prices only because we were able to buy a large quantity of lumber and other materials at a reduced price.

Standard Ten Frame Hives, complete with telescoping metal covers, hive bodies, bottom boards, and divided bottom bar frames. No inner covers, five for $21.00

Metal Covers, telescoping on all four sides, complete with nails and pure aluminum covering ..... five for $5.95

Bottom Boards, standard reversible type, made from 100% pure cypress ..... five for $4.50

Hive Bodies, empty, complete with frame rests and hand holds on four sides ..... five for $5.75

All equipment is furnished in ten frame size and is completely dovetailed.

• • • • •

Babcock Honey Company

803 Sumter St. **Columbia, S. C.**

QUEENS QUEENS

Tanquary's Italian Queens

Our queen yards will be in operation until November 1st. We will have lots of queens through this date. Try our queens!

We are now booking orders for package bees and queens for 1948 delivery. Let us book your package orders now. Avoid the 1947 spring delay. Our prices on packages will be out on December 1st. No deposit required until that date. Bee Wise, order early.

PRICE LIST FOR 1947

	1 to 5	6 to 49	50 to 99	100 up
2 lb. pkgs. bees with queens	$4.25	$4.10	$3.95	$3.75
3 lb. pkgs. bees with queens	5.25	5.10	4.95	4.75
4 lb. pkgs. bees with queens	6.25	6.10	5.95	5.75
5 lb. pkgs. bees with queens	7.20	7.00	6.85	6.75
Queens	1.30	1.25	1.10	1.00
Tested Queens	2.15	2.00	1.95	1.80

Queenless packages, deduct $1.15 per package
Queens Postpaid—Package bees F. O. B.

Tanquary Honey Farms, Inc., Lena, S. C.

MUCH MONEY and STILL MORE TIME

have been devoted to the improvement of the parent DR stock made available through the Iowa Beekeepers' Association.

It is a 100% Effort

to make available to honey producers the best possible DR stock.

Iowa Beekeepers Assn.
State House
Des Moines, Iowa

Queens by return mail **Thank**

To our many customers for their patronage this season. We can still furnish you with queens and package bees.

Untested queens	$.75 ea.
Tested queens	1.50 ea.
2-lb. pkg. with queen	4.00 ea.
3-lb. pkg. with queen	5.00 ea.

KEEP US IN MIND

for quantity and quality bees and queens for 1948. Again, Thank you.

Norman Bros. Apiaries
Ramer, Ala.

MORE FALL REQUEENING BEING DONE

BECAUSE—1. No spring break in egg laying. 2. Less supersedure and less swarming. 3. Queens not used up with a season's heavy work. 4. Installed and ready to forge ahead in spring. 5. No costly delays as queens are more plentiful. 6. Conditions are best for rearing of good queens. 7. Northern bred stock, while preferred by many, is hard to get in early spring.

Hollopeter's young mated and laying queens, $1.00 each. Shipped promptly on date wanted.

WHITE PINE BEE FARMS
Rocton, Pa.

Queens . . .

one of the world's leading strains of Light Colored Italians, airmail postpaid, fresh from our breeding yards. All queens have one wing clipped half way for your convenience in handling.

Our breeding stock is selected, first, for prolificness of queen; secondly, for high honey production of workers; thirdly, for gentleness of bees; fourthly, for appearance of bees and queens.

From a modern breeding establishment ideally located geographically for the purpose.

The start of the 1948 season is in the fall of 1947. The build-up period in the spring is short. Bees should go into winter quarters with a good cluster of young bees and a queen capable of laying heavily in the spring. Replace now over-age queens, or any poor queen. If you have a bad stock of bees, it's a good time to requeen the entire yards.

R. C. Daniels

For a decade we have served the beekeepers of a continent. Our wish is to continue to enjoy your good will.

30% discount on queen bees for the balance of the season. — Off prices below —

Lots	
1-5	$1.55
5-15	1.50
15-25	1.40
25 up	1.35

Small orders, cash in full. Large orders, 20% deposit, balance to be received two weeks before shipping date.

• • • • •

The Daniels Apiaries

Picayune, Mississippi

Be Thrifty, Be Wise

Keep in mind a shipper of PACKAGE BEES who can and will make deliveries in 1948. That is our only business.

Our prospects are better at this date than in several years.

If you care to place an order now, we will book, subject to your approval of prices when established, without deposit. You have the right at all times to cancel and any deposit will be refunded. If we accept an order we guarantee to deliver.

We will use only new cages, supply health certificate with each shipment, and ship full weight packages with young queens.

Please do not ask us to take your used cages even as a gift. (See state regulations in bee journals.)

Rossman & Long
P. O. Box 133 Moultrie, Ga.

JENSEN'S

"Magnolia State" Strain Italians and Daughters of Resistant Breeders

Little time remains for the all important job of REQUEENING, and it is ALL important. There is danger in taking chances on queens in their second year, always. First year queens showing any signs of inferiority should be replaced at the first opportunity.

The price of a good queen is insignificant in comparison with the value of a colony.

"Magnolia State" Queens
1-24, $1.20 ea.; 25-99, $1.10 ea.; 100 up, $1.00 ea.
Daughters of D.R. Stock, Isolation bred
1-9, $1.45; 10-49, $1.35; 50-99, $1.25; and 100 up, $1.20 ea.

Jensen's Apiaries,
Macon, Miss.
The business QUALITY built.

Look for this Sign When You Want QUALITY AT LOW COST

U. S. Pat. Off. Trade Mk. Reg.
KELLEY — "The Bee Man"

QUEENS

(1-4)

$1.00 each

5 to 24	$0.90
24 to 99	.85

Young 3 banded Italian laying queens fresh from our yards, guaranteed purely mated and satistory. Health certificate with each shipment.
SHIPPED PREPAID AIRMAIL

The Walter T. Kelley Co., Paducah, Ky.

MACK'S QUEENS

(They Speak for Themselves)

September will be the last month this year to procure MACK'S Big Superb Queens. Get a few for a convincing test for season 1948. Price, $1.00 each, postpaid.

Herman McConnell & Sons
Robinson Rte. 2 Illinois

MOORE'S STRAIN

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view. By careful selection during all these years I have succeeded in producing a strain of three-banded, leather colored Italian bees known as Moore's Strain of Italians which has won a world-wide reputation for honey gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them. Untested queens, $1.25 each; 6 for $7.00; 12 or more $1.00 each.

J. P. Moore, Falmouth, Ky.
Route 3
Former Address: Morgan, Kentucky
Safe arrival and satisfaction guaranteed

Queens Italian Queens

THREE BANDED, NORTHERN BRED, FOR BUSINESS
Safe arrival, 50th breeding season. Unt., $1.00 each, Sel., $1.25 each, while they last or close of season about October 15th.

I. F. MILLER
Warren, Pa. R. 3.

ANNOUNCING

Our queen business has grown so that we find is necessary to discontinue the package business and to devote our full time and effort to the production of queens. Thank you for your business during the past years and for your continued queen orders in the future.

Leather colored Italian Queens, $1.00 each until September 20, 1947.

Apiaries accredited and certified by the Alabama State Department of Agriculture.

O. K. Anderson & Son Apiaries
Box 193
Coffee Springs, Ala., U. S. A.

Northern Queens

A hardy improved strain of Italians
PRICES JUNE 1 TO NOVEMBER 1:
Untested, $1.35 Tested, $2.25
Air mail Postpaid
Prompt Service Satisfaction
Barger Apiaries Carey, Ohio

BESSONET'S ITALIAN QUEENS

Breeding stock selected in the North personally by E. C. Bessonet. The best from thousands of colonies provide better queens for you.

Prices: 1-24 ... $1.10 25-99 ... $1.00 100 up ... 90c

Bessonet Bee Company, Donaldsonville, La.

QUEENS Fall Queens a Specialty QUEENS

You send the order; I have the queens

LEATHER COLORED ITALIAN QUEENS
MIDDLE TENNESSEE APIARIES

1 to 25, $1.35; 26 and up, $1.20—From Imported Strains.
¼ books orders. Balance before shipping. All queens clipped and by air mail at no extra cost. (All Queens after June 15, $1.00)

J. B. TATE & SON
1029 No. 4th St., Nashville 7, Tennessee Tel. No. 34509M

Leather Italian Queens

We guarantee every queen that we ship out to be mated and her laying ability proven.

We also guarantee that there are no gentler Leather Italians with equal storing ability; they will not swarm unless badly neglected.

For your Fall requeening, please order early enough so that you will have ample time to check your colonies and receive replacement for any Queen that fails to live up to our guarantee.

Prices

	Queens	2-lbs.	3-lbs.	4-lbs.
1-24	$1.10	$4.20	$5.55	$6.90
25-99	1.00	3.95	5.25	6.55
100-up	.90	3.70	4.95	6.20

Health certificates sent with each shipment.
Queens prepaid. Clipped or by Air Mail at no extra cost.

Rich Honey Farms

Jeanerette, Louisiana

We wish to thank all our customers for the kind consideration they have given us in regard to the lateness of our shipments. A combination of adverse conditions made regular scheduled shipments impossible.

We Thank

All our customers who were so cooperative and considerate during the trying 1947 season. We are working hard to prepare for the 1948 season.

GIRARDEAU APIARIES, Tifton, Georgia
Italian Package Bees and Queens

GARON'S QUEENS

THREE-BANDED ITALIANS
Mraz's Strain Bred for Resistance to AFB
Health Certificates on all Shipments

This is a good time to requeen. Old worn out queens are unprofitable.

Prices:	1 to 25	26 to 99	100-up
	$1.10	$1.00	$ .90

Queens Clipped and Airmailed at no extra cost.

Garon Bee Company **Donaldsonville, La.**

QUEENS

Lots of Nice Young Queens for Immediate Shipment Both Italians & Caucasians

We have about finished package shipments for this season, and are devoting our entire time to the production of good queens. If you need them for queenless colonies, requeening, or making increase, we can supply your needs promptly at the following prices:

1-24	$1.10 ea.
25-99	1.00 ea.
100-up	.90 ea.

Clipped or Airmailed at no extra cost.

The Stover Apiaries

Mayhew, Miss.

"Yes", Queens Via Return Mail

No Delays

I ship when you want them

Price List

Select Untested Queen Bees

1-24	$1.10 each
25-99	1.00 each
100 up	.90 each

Tested Queens double the price of Untested Queens.

Pure mating and safe arrival guaranteed.

W. E. Harrell

Hayneville, Alabama

York's

Package Bees & Queens Quality Bred Italians

Balance of season prices. Plenty of bees and queens and prompt shipments.

2-lb. pkg. with queen,	$4.50 ea.
3 lb. pkg. with queen,	5.50 ea.
Queens	1.50 ea.

Booking orders now for 1948, let us hear from you with reference to your requirements for the coming season.

York Bee Company

Jesup, Georgia

(The Universal Apiaries)

PACKAGE BEES AND QUEENS

Leather Colored Italians Bred for Production

Prices of Package Bees and Queens:

Lots of:	2 lb.	3 lb.	Ex. Queen
1 to 24	$4.00	$5.00	$1.25
25 to 99	3.85	4.80	1.10
100 or more	3.75	4.70	1.10

Terms: 25% deposit to book order, balance ten days before shipping date. We replace any bees that die in transit if it our fault. If it is the carriers' fault, file claim with them. We start shipping February 1. Old customers will be given preference.

The Island Apiary

Collier City, Fla.

BEEKEEPERS NOTICE

SUPPLIES AVAILABLE FOR PROMPT DELIVERY

Order Now and Avoid Delay Later

Hives are constructed of 5/8" water-resistant plywood. Shipped KD. Hive body parts painted on outside with Uniflex guaranteed water-resistant paint.

Complete 10 fr. Hive	**$6.50**
Complete 10 fr. 5 3/4" Super	**2.60**
Complete 10 fr. 9 1/2" Super	**3.50**
Brood Frames per C	**8.00**
Super Frames 5 3/8" per C	**5.75**
UNIFLEX Paint per gal.	**3.00**

Price List Upon Request.

Mid-West Wood Products Co., Perry, Kansas

QUEEN TRANSFERRING TOOL

Pierce Patent

Slide the tool point down the wall of the cell to the bottom. A pressed spring automatically picks up the larva and jelly. Release the spring and the larva and food is dislodged. Handles the tiniest larva easily and readily

Price: $2.75 **Extra Points: $.25**

Macy Electric Knife Company, Inc.

1239 S. Lorena St. Los Angeles 23, California

Our National Federation

Let's continue to boost and support our Federation because:

(1) It is the organization that helps to hold our industry together—it is comparable to the National Beekeepers' Council of Canada.

(2) Our Federation is interested in and works for the welfare of beekeepers everywhere.

(3) It is the mouthpiece for our industry.

(4) Money is needed to carry on the work of our National Federation. Help yourself by helping the Federation. Send contributions to:

Sec.-Treas. Glenn O. Jones

Atlantic, Iowa.

JUST NEWS

(Continued from page 557)

best programs ever put on, thanks to Ned Prevost and his committee. Honey prices were discussed at length. The trend was to maintain a reasonable price and to not cheapen the product.

Beekeepers in that state have secured one of the best honey crops in recent years. Sourwood yielded well in most areas. It makes an excellent honey for cut comb in glass, as it does not granulate.

Sulfa drug is being tried. The concensus was to continue experimental work until more is learned about it.

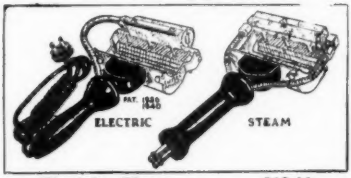
The Ohio meeting was well attended. Sulfa and honey prices came in for rather vigorous discussions. Many beekeepers are using sulfa and some encouraging reports were made. However, more time is needed to answer the question all beekeepers are asking.

The white honey crop in Ohio is below normal. Those who have white honey are not going to give it away. It is likely to bring a fair price even though jams and jellies compete for consumers' dollars.

The bee pasture problem is bothering the commercial beekeepers. Sweet clover acreage has dwindled recently. There does appear to be some hope for more legumes in the near future. The recently established field station in Columbus to work on legumes and pollination should help, not only Ohio, but other states as well, to develop a legume growing program that will benefit agriculture and, incidentally, improve bee pasture.

Protect your future. Buy your extra Savings Bonds now.

NEW IMPROVED
Rosedale Steam and Electric Uncapping Plane



Electric Plane $12.00
Steam Plane 7.50
Ext. Copper Blades .... .75
Shipping weight, steam planes 2 lbs.
Electric 3 lbs. Delivery charges extra.

JOHN J. MAENDEL
Portage La Prairie
Manitoba, Canada.

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Send for your free copy today
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3 years, $1.00. Sample, dime.
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QUEEN REARING
Learn how leading Southern breeders rear

Special 6 ISSUES $1
world - famous queens. Also timely articles on electric hive heating, sulfa for foulbrood, management, requeening, etc. Beginner's page. Lavishly illustrated.
1 year $2.00 2 years $3.50 3 years $5.00
SOUTHERN BEEKEEPER Box 94 Hapeville, Ga.

Look for this Sign
When You Want
QUALITY AT LOW COST

Trade Mk. Reg.
U. S. Pat. Off.
KELLEY — "The Bee Man"

PRICES CUT ON TIN AND GLASS

1 lb. honey jars, ctn. 24 .... 70c ea.
2 lb. honey jars, ctn. 12 .... 45c ea.
5 lb. honey jars, ctn. 6 .....
24 cartons $10.25
Ctn. 50 5 lb. tin pails $3.75
Ctn. 50 10 lb. tin pails 5.50
Ctn. 16 60 lb. tin pails .....
2½" screw cap $6.50

Shipment from our Paducah stock same day order is received. No limit—carloads in stock. 5% discount on $50.00 and 10% on $100.00 orders.

The Walter T. Kelley Co., Paducah, Ky.

Central Michigan
Headquarters
for
HONEY
CONTAINERS
Michigan's most
Complete stock for
Extracted Comb and
CUT COMB PACKAGES
Paying Top Prices
for Beeswax
M. J. BECK CO.
510 N. Cedar St. Box 7
Lansing 1, Michigan

Now That We Have Your
ATTENTION

Send us a small sample of your white or amber extracted honey and name us your best price, freight paid to Cincinnati, also state how it is packed.

We also buy pure beeswax. Can pay 46c per pound today, freight paid to Cincinnati. Ship your old comb or cappings to us for rendering into beeswax.

We are unlimited buyers of HONEY or BEESWAX. Remittance mailed promptly.

Send for our 1947 price list

The Fred W. Muth Co.
Pearl & Walnut St.
Cincinnati 2, Ohio

NEW DESIGN **ELECTRIC UNCAPPING KNIFE**

$12.00

110-130V AC ONLY

- **THERMOSTAT CONTROL**
- **EVEN TEMPERATURE**
- **FASTER OPERATING**
- **LIGHT WEIGHT**

Macy Electric Knife Company
INC.
1239 S. Lorena St. Los Angeles 23, Calif.

Pollen Substitutes

	1 lb.	5 lb.	10 lb.	25 lb.
Brewers yeast and soy flour expeller mixed 1 to 6		$ .75	$1.50	$3.25
Brewers yeast	$ .40	1.50	2.75	5.50
Soy flour			1.40	2.75
Skim milk powder		1.00	1.75	3.75

Write for prices in large quantities. Include postage if you wish it by parcel post. All prices are collect, Bainbridge, N. Y. Allow 2 pounds for packaging.
M. Y. S. Company Bainbridge, N. Y.

NOTICE

Write for prices for having your wax made up or outright purchase of

SCHMIDT'S

Economy Foundation

Not excelled for quality, strength, and workmanship.

Satisfaction Unconditionally Guaranteed

Oscar H. Schmidt & Sons
R. 4 Bay City, Mich.

Let Us Supply Your Container Needs

$50.00 Orders - 5% discount
$100.00 Orders - 10% discount

GLASS and TIN

½-lb. jars, ctn. 24, wt. 9 lbs. ... $0.67
1 -lb. jars, ctn. 24, wt. 12 lbs. ... .78
2 -lb. jars, ctn. 12, wt. 11 lbs. ... .53
5 -lb. jars, ctn. 6, wt. 10 lbs. ... .47
5 -lb. tin pails, ctn. 50, wt. 25 lbs. 4.10
5 -lb. tin pails, ctn. 100, wt. 46 lbs. 7.30
10-lb. tin pails, ctn. 50, wt. 44 lbs. 6.10
60-lb. sq. cans, ctn. 24, wt. 72 lbs. 9.10
2 60-lb. sq. cans in wood ship. cs. 1.40
Label Paste for glass or tin, 60c can
Label samples and prices sent on request.

COMB HONEY CARTONS
for
4¼ x 1⅞, 4¼ x 1⅛, and 4 x 5 sections
Cellophane Window Cartons —
100, $1.55; 500, $6.65; 1000, $13.20.
Decorated Cellophane Wrappers —
100, $1.15; 500, $4.95; 1000, $9.85.
also
Wooden display and reshipping cases for comb honey.

WRITE FOR PRICES

Prices f.o.b. Boyd, and subject to change without notice.

August Lotz Company
Boyd Wisconsin

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
"AUSTRALASIAN BEEKEEPER"

Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.

Write now to the Editor,
P. O. Box 20, West Maitland,
New South Wales, Australia.

OLDEST BEE JOURNAL IN THE ENGLISH LANGUAGE

Keep up on markets, practices, scientific data, regulations, and plant possibilities.
1 year—$1.50; 3 years—$3.00 U. S. and Canada. Foreign postage 25c a year extra.

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Protect your future. Buy your extra Savings Bonds Now.

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Manufacturers of Bee Supplies
ONSTED, MICHIGAN

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